Volume II

Regional Boaters and Boating Facilities

California Boating Facilities Needs Assessment

Gray Davis, Governor
State of California

Mary D. Nichols
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Department of Boating and Waterways

October 15, 2002

California Boating Facilities Needs Assessment

Primary Contractor to the California Department of Boating and Waterways

Sacramento, California

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Guide to Five Volume Report
California Boating Facilities Needs Assessment

Volume I	Statewide Boaters and Boating Facilities
Volume II	Regional Boaters and Boating Facilities
Volume III	Appendices to Statewide and Regional Boaters and Boating Facilities
Volume IV	Law Enforcement Boating Facilities Needs Survey
Volume V	Boating Economic Assessments and Facilities Demand Projections
Compact Disc	Database Inventory of Boating Facilities (In Volume III-Addendum)

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Regional Boaters and Facilities

Introduction

This volume provides detailed exhibits and descriptions for each of the ten California Boating Facilities Needs Assessment (BNA) regions defined in Volume I, Chapter 1 and illustrated in **Exhibit II.1** on the following page. The purpose of this regional discussion and analysis is to provide an assessment and comparison of boater's needs, facility status, and facility needs by region, facilitating more region-specific planning and decision-making.

Each regional section includes:

- A description of key regional features and findings, including geography, boats, boating activity, facilities, problems, and facility needs
- A map of the region and key waterways
- A table of waterways known to have boating facilities
- A Boats and Boaters exhibit with regional figures, facts, and lists from the Boater Survey, including numbers and types of boats, boater demographics, storage and launching preferences, and most-used waterways
- A Facilities and Needs exhibit with charts, facts, and lists from the facility survey, including types of facilities, rates, capacity, occupancy, and estimated costs for facility needs over the next ten years
- A list of problems within specific waterways, as identified by boaters, law enforcement, Department of Boating and Waterways (DBW) accident reports, and workshop attendees
- A list of facility needs within specific waterways, as identified by boaters, law enforcement, facilities, and workshop attendees.

Below are a few key findings and differences among the regions.

- Larger boats are more common in the coastal regions than the interior, but small boats dominate the mix of sizes in every region.
- Boat propulsion preferences vary by region. Hand or outboard power is most popular in the remote Northern Interior and Eastern Sierra regions. Inboard and I/O propulsion are most popular in the Northern and Central Coast regions. Jet power dominates the mix in the South Coast and Southern Interior regions where personal watercraft are especially popular. Sail power, with or without an auxiliary engine, is understandably most popular where the winds are dependable and the water deep. This favors the coastal regions generally, and especially the climatically mild San Diego region.

Exhibit II.1

The Ten California BNA Regions

Table 1.1
Counties within Each California BNA Region

1. North Coast	6. Northern Interior
■ Del Norte ■ Humboldt ■ Mendocino ■ Sonoma	■ Lassen ■ Modoc ■ Siskiyou
2. San Francisco Bay Area	**7. Sacramento Basin**
■ Alameda ■ Contra Costa ■ Marin ■ Napa ■ San Francisco ■ San Mateo ■ Santa Clara ■ Solano	■ Butte ■ Colusa ■ El Dorado ■ Glenn ■ Lake ■ Nevada ■ Placer ■ Plumas ■ Sacramento ■ Shasta ■ Sierra ■ Sutter ■ Tehama ■ Trinity ■ Yolo ■ Yuba
3. Central Coast	**8. Central Valley**
■ Monterey ■ San Luis Obispo ■ Santa Cruz	■ Amador ■ Calaveras ■ Fresno ■ Kern ■ Kings ■ Madera ■ Mariposa ■ Merced ■ San Benito ■ San Joaquin ■ Stanislaus ■ Tulare ■ Tuolumne
4. South Coast	**9. Eastern Sierra**
■ Los Angeles ■ Orange ■ Santa Barbara ■ Ventura	■ Alpine ■ Inyo ■ Mono
5. San Diego	**10. Southern Interior**
■ San Diego	■ Imperial ■ Riverside ■ San Bernardino

- All regions have summer peaks and winter lulls in boating, but seasonal variations in boat use are generally more extreme in the interior than on the coast. The exposed coastlines of the North Coast (NC) and the cool lakes of the Northern Interior have the lowest midsummer peaks. The winter lull is most pronounced in the Eastern Sierra (ES) and Northern Interior, when many lakes are frozen solid and from 0 percent to 9 percent of boats are used. In the San Francisco (SF) and San Diego (SD) regions, with their protected waters and mild climates, utilization is high year-around and 25 percent still go out in midwinter.

- Most owners (close to 80 percent) keep their boats at home in every region, though in very urbanized coastal areas like the South Coast, San Diego, and San Francisco Bay somewhat fewer owners of small boats — about 65 percent — are able to keep them at home, opting frequently for boating facilities.

- There are more boating facilities in the northern regions of the State, reflecting the greater number of waterways in the north. The San Francisco Bay and Sacramento Basin regions account for 46 percent of the State's total facilities, while the South Coast and San Diego regions account for 20 percent of the total facilities.

- Open slip occupancy rates are highest in the San Diego region (98 percent) and the South Coast region (94 percent). Occupancy rates in the other more populous regions range from about 80 percent to 90 percent, but are much lower (closer to 50 percent) in remote regions such as the Northern Interior and Eastern Sierra. Open slip occupancy in these regions tends to be seasonal.

- When facilities have open slip vacancies, they are typically in the smaller size ranges – under 26 feet and between 26 and 39 feet in length. There are fewer facilities with vacancies in the larger berth sizes.

- Covered berths are primarily found in three regions, the Sacramento Basin, Central Valley, and San Francisco Bay. The covered slip occupancy rate in the Sacramento Basin is very high, at 98 percent. Covered slip occupancy rates in the other two regions are somewhat lower.

- There is significant variation in berth rental rates between regions. The average monthly rental rate for a typical open slip ranges from less than $100 in the Eastern Sierra region to $440 in the San Diego region, which also has the highest occupancy rate. Rental rates in the South Coast and Central Coast are also relatively high, at $323 and $275 per month, respectively. Open berth rental rates in the San Francisco region are somewhat lower, at $200 per month on average, similar to the rate in the Sacramento Basin.

- Facility survey respondents were asked to estimate the costs of repairs, replacement, expansion, and additions in three time periods – within two years, two to five years, and five to ten years.

The South Coast and San Francisco Bay regions had the highest estimated costs, with estimates of over $50 million per time period in each region. Estimated costs were lower, but still relatively high (ranging from about $15 million to $40 million per time period) for four regions: the Sacramento Basin, Central Coast, Central Valley, and Southern Interior. The Northern Interior and Eastern Sierra regions had very low estimated upgrade costs, at less than $1 million per time period.

- Some problems, such as accidents and waterway and launch ramp congestion, are identified on waterways throughout the State and appear to be relatively subjective. For example, a "high frequency of fatalities" for Mono Lake, which had fatalities in an accident several years ago, is different than a "high frequency of fatalities" for the Sacramento-San Joaquin Delta, which experiences fatal accidents every year.

- Many of the problems, particularly those identified through the law enforcement survey, relate to boater behavior (drinking and recklessness) and the need for more law enforcement. These problems and related recommendations are discussed in more detail in the law enforcement survey in Volume IV. Only those recommendations related to facility needs are included in the regional summaries.

- Many problems such as insufficient water depth and congestion are almost universally identified throughout the State, although some, like poor water quality, are regional. Poor water quality was a significant problem in the South Coast and San Diego regions, but not in the Eastern Sierra, North Coast, or Northern Interior regions, for example.

- Similarly, there are some facility needs that are identified in most regions, such as launching capacity, dredging, gas pump facilities, and parking capacity. Other recommendations were more regional, for example, many facilities in the South Coast and San Diego regions needed better waste pumpout, more transient slips/guest docks and larger boat slips. Dock and ramp repairs were recommended most frequently in the San Francisco and Sacramento Basin regions.

The remainder of this section includes a description of the exhibits and information that will follow, including the Boats and Boaters exhibit, Facilities and Needs exhibit, and problems and facility needs summaries.

The Boats and Boaters exhibit provides an overview of key findings from the California boater survey. Sources include the DMV and MARAD data for 2000 and the BNA survey of over 4,000 boaters conducted in 2001. Each regional exhibit includes the following:

- Total number of boats by boat length

- Demographics, including regional population, number of registered and documented vessels, boats per 100 people, and mean boater age (from the boater survey)

- The mean number of boating trips taken by boaters in 2000
- The mean number of days boaters used their boats in 2000
- The percent of boaters in each of five income levels
- Boat storage facilities, showing the percent of boaters that use the following locations:
  - Boat storage – a marina or dry storage facility specifically for boats
  - General storage – for example an RV or storage facility
  - Own property – the boater's yard or garage
  - Other private property – for example at a friend or family member's garage or yard
  - Private mooring – for example at a lake
  - Other
- Boat storage support, identifying how the boat is kept, including:
  - Water – typically a marina, mooring, or private dock
  - Trailer – typically at the owner's property or other storage facility
  - Rack – typically at a dry storage facility
  - Ground – typically at the owner's property or other storage facility
- The percent of boats that were unused in 2000 – the percent of respondents in the boater survey that did not use their boats
- Boater expenses, including the annual ownership expenses for maintaining the boat, and mean daily trip spending
- Total number of registered or documented boats by propulsion type, including hand propulsion, sailboats with or without auxiliary, outboards, inboard/outboards, jet propulsion, and others
- The percentage distribution of launch methods for those boats that are not stored in the water, including launch ramps (typically the most common option), hoist, launching service, carrying the boat, and other
- The percentage distribution of the number of trips over 100 miles from home in 2000
- A list of the top 10 most-used waterways of boaters in the region. This list frequently includes waterways in other regions
- A list of the top 5 reasons that boaters in the region use these waterways.

The Facilities and Needs exhibit provides a regional summary of the facility survey results. Sources include the BNA facility survey, secondary research on facilities, and the Delta Study survey. With the exception of the first table, statistics in the exhibit include only those facilities in the survey database of 646 facilities. Each facility exhibit includes the following:

- The count of facilities in the survey and the estimated number of other facilities in the region, by type, which are not, included in the survey results. This table also shows the total number of facilities in the region as a percent of

the statewide total. This is the only table that incorporates estimates of facilities not in the survey database

- The number of facilities owned by government agencies and the number of facilities owned privately (non-government)
- The number of facilities of each of the possible combinations of facility types: launch, dry storage, marina, or combinations of these, plus the number of facilities that said they provided none of these features
- Launch ramp statistics, including the number of lanes available, trailer parking spaces, boarding floats, and carry-down walkways.
- The frequency distribution for the number of days that launch ramp facilities in the region reach capacity
- Wet storage capacity (number of slips or moorings) and percent occupancy for open berths, covered berths, and moorings. The occupancy rate includes only those facilities for which both capacity and occupancy information was available
- The frequency distribution of the percent of facilities in each of five occupancy rate ranges, zero to 25 percent, 26 to 50 percent, 51 to 75 percent, 76 to 99 percent, and 100 percent
- For some regions the exhibit includes a figure illustrating the number of facilities with vacancies in each of four slip sizes, under 26 feet, 26 to 39 feet, 40 to 65 feet, and over 65 feet. This graphic is only included when there were enough facilities reporting vacancies
- Dry storage total capacity and percent occupancy (again, the occupancy rate includes only those facilities with boat capacity and occupancy information)
- Monthly rental rates per space for dry storage, open berths, covered berths, moorings, and liveaboards, and the rate per night for transient boats. The table includes the average, minimum, and maximum rates
- The frequency distribution of the percent of facilities that turned away transient boaters in 2000 in five categories, never, 1 to 10 days, 11 to 60 days, 61 to 100 days, and over 100 days
- The cost for repairs, replacement, expansion, and additions, as estimated by facility providers, in three time periods, within 2 years, 2 to 5 years, and 5 to 10 years. The table includes the number of facilities that specified that they had facility needs, and the number that could provide costs, plus the sum of costs for all facilities providing costs in four facility categories, launch ramps, dry storage, waterside wet storage, and landside wet storage.

Problems at specific waterways within a region are summarized in four tables. The problem list includes four key sources: 1) the boater survey (respondents were asked about problems at their most-used waterways and at waterways they do not use), 2) law enforcement survey respondents who were

asked about hot spots and problem areas in their jurisdiction, 3) workshop attendees who commented on problem areas, and 4) DBW 2000 accident report statistics, which highlight certain waterways as problem areas due to the large number of accidents. Facility survey respondents were not asked specifically about problem waterways, so their input is not included in this summary.

Facility needs at specific waterways within a region are summarized in four tables. The facility needs list also includes four key sources: 1) the facility survey respondents, who were asked about facility needs at their waterway, 2) the boater survey respondents, who were asked about facility needs at their most-used waterways and at waterways they do not use, 3) law enforcement survey respondents, who were asked about recommendations to improve the problem areas mentioned above, and 4) workshop attendees who commented on specific facility needs.

The regional summaries are provided in the following order:

1. North Coast
2. San Francisco Bay
3. Central Coast
4. South Coast
5. San Diego
6. Northern Interior
7. Sacramento Basin
8. Central Valley
9. Eastern Sierra
10. Southern Interior.

1. North Coast Region

Geography

The North Coast Region is predominantly rural, and was historically devoted to forestry, fisheries, and agriculture. There are no large cities in the region, although Sonoma County contains the expanding northernmost suburbs of San Francisco.

Boats

Boat ownership in the region is relatively high for its small population. Small outboards and I/Os are popular, but not PWCs. An unusually large percentage are licensed for commercial or fishery use. The waters are cold, hazardous, and not conducive to coastwise cruising; this is the only region in which more boats are documented for fishery than for recreational use. The fleet is unusually old, with nearly half the boats over 20 years old.

Boating Activity

North Coast boaters most often use Lake Sonoma, the Pacific Ocean, Humboldt Bay, and Lake Mendocino. Many of their most-used waterways are outside the region, like San Francisco Bay, Lake Berryessa, and Tomales Bay.

Facilities

There are relatively few facilities in the North Coast region, accounting for only 5 percent of the facilities in the state. There are a greater percentage of government facilities in the North Coast compared to most other regions. The total number of open berths is low, and there

are no covered berths and few moorings. Pressure on launch ramps is relatively high, with 33 percent of the launch ramp facilities reporting that the ramp reaches capacity over 15 days per year. Pressure on open berths is not high; the occupancy rate is 79 percent, with vacancies in all size ranges. There is little pressure on transient berths, with only three of the 13 facilities reporting that they turned away transients in 2000.

Problems

There were relatively few problems identified in the North Coast region. Only dangerous water conditions and insufficient water depth were mentioned by more than one source. Some of the problems identified include:

- Humboldt Bay –
  - accidents
  - ADA compliance
  - dangerous water conditions
  - floating debris
  - insufficient water depth
  - needs gas pump facility
  - parking capacity
  - poor water quality
  - security in parking area
- Pacific Ocean –
  - congestion on waterway
  - dangerous water conditions
  - high frequency of search and rescue missions
  - inadequate maintenance of vessels/PWCs
  - insufficient water depth
- Klamath River –
  - accidents
  - congestion on waterway
  - high frequency of fatalities
  - rude/argumentative/violent boaters
- Big Lagoon –
  - restrictions due to wildlife/ environmental protection
  - slow speed limit/no wake zone
- Smith River –
  - congestion on waterway
  - rude/argumentative/violent boaters

Facility Needs

There were several facility needs mentioned by multiple sources, including dredging, launch capacity, dock and ramp repairs, parking capacity, improving/adding a breakwater, non-motorized craft launch, and adding gas pump facilities. Waterways with multiple facility needs include:

- Humboldt Bay –
  - abandoned vessels
  - ADA compliance
  - dredging
  - gas pump facility
  - improving restrooms
  - launching capacity
  - more dry storage
  - non-motorized craft launch
  - ramp repairs

- Big Lagoon –
  - dredging
  - launching capacity
  - no speed limit area
  - ramp repairs
- Shelter Cove –
  - general facility improvements
  - improve/add breakwater
  - parking capacity
  - ramp repairs
- Bodega Bay –
  - dredging
  - general facility improvements
  - launching capacity
- Klamath River –
  - add docks
  - launching capacity
  - ramp repairs
- Pacific Ocean –
  - better waste pumpout
  - launching capacity
  - ramp repairs.

North Coast Waterways*

Waterway	Launch Ramp	Dry Storage	Wet Storage
Albion River	✓	✓	✓
Big Lagoon	✓		
Bodega Bay	✓		✓
Crescent City Harbor	✓		✓
Eel River	✓		
Humboldt Bay	✓		✓
Klamath River	✓		✓
Lake Mendocino	✓	✓	✓
Lake Sonoma	✓		
Lakes Earl & Talawa	✓		
Noyo River	✓	✓	✓
Pacific Ocean	✓		✓
Petaluma River	✓		✓
Russian River	✓		
San Pablo Bay			✓
Shelter Cover (Pacific Ocean)	✓	✓	✓
Smith River	✓		

* Waterways in italics have boating facilities but were not included in the 646 facilities in the full BNA Survey.

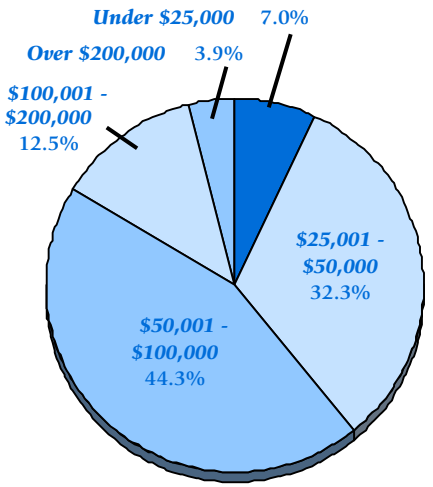
North Coast Region Key Waterways

Counties

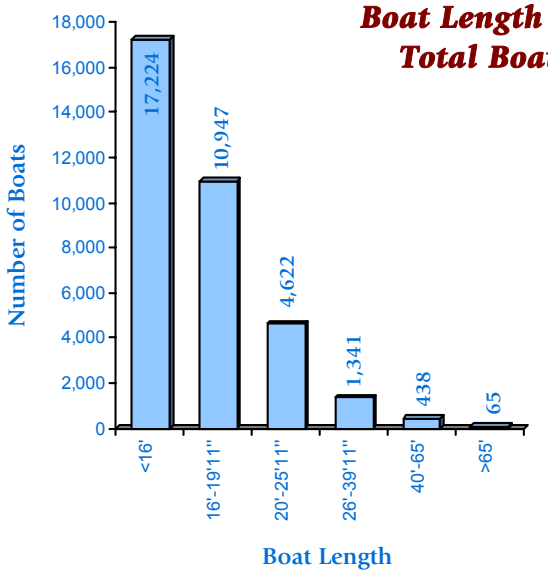
Del Norte
Humboldt
Mendocino
Sonoma

Boats and Boaters

Boater Income Levels

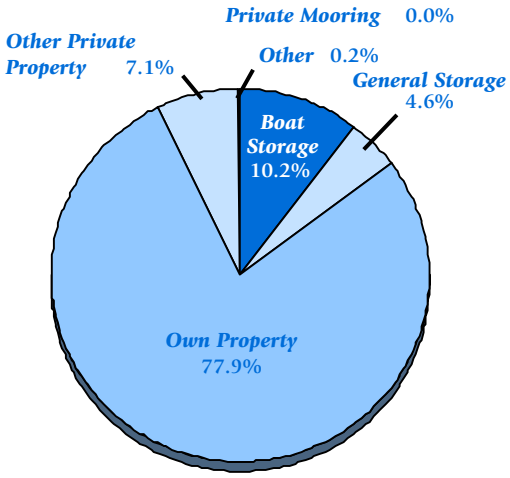


Boat Length – Total Boats



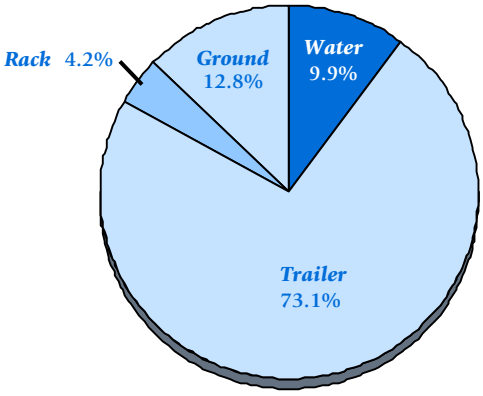
Population:	712,000
Total Registered/Documented Vessels:	34,643
Boats per 100 people:	4.87
Mean boater age:	54.9

Boat Storage Facilities



Mean Trips in 2000:	20.2
Mean Days used in 2000:	42

Boat Storage Support

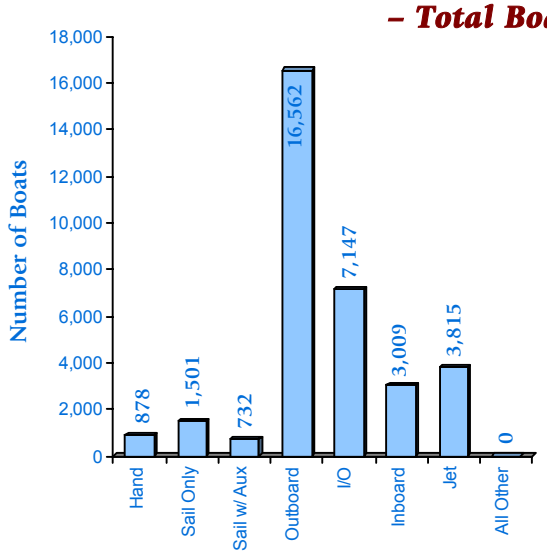


Percent of boats unused in 2000:	18.0
Annual ownership expense:	$1,631
Mean daily trip spending:	$125

Top 10 Waterways

1. Lake Sonoma (SF)
2. Pacific Ocean
3. Humboldt Bay
4. Lake Mendocino
5. Ruth Lake Reservoir (SB)
6. Lake Berryessa (SF)
7. Bodega Bay
8. Clear Lake (SB)
9. Tomales Bay (SF)
9. San Francisco Bay (SF)
9. Trinity Lake (SB)

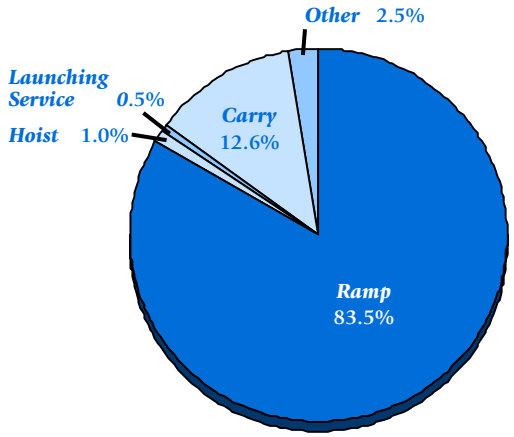
Propulsion Type – Total Boats



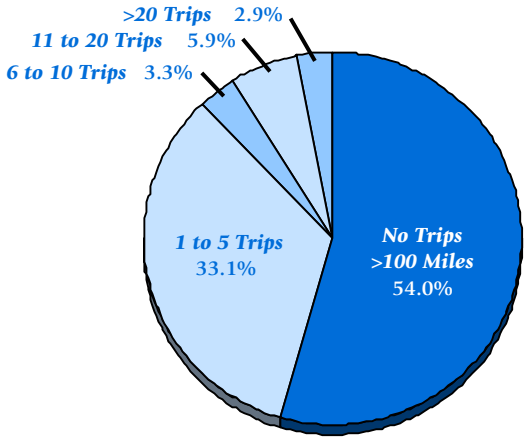
Top 5 Reasons to Use a Waterway

1. Good fishing
2. Close to home
3. Convenience
4. Near vacation home or camps
5. Large water area
5. Good sailing

Launch Methods



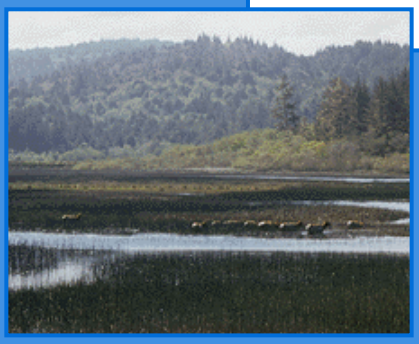
Trips >100 Miles from Home



Facilities and Needs

Facility Count

	Total	Launch	Dry	Wet
Facilities in Survey	30	18	6	18
Facilities not in Survey	12	10	1	2
Percent Surveyed	71%	64%	86%	90%
Region as % of State	5%	5%	3%	4%



Dry Storage

Capacity	230
% Occupancy*	33%

Facility Type

	Number
Launch	9
Dry Storage	1
Marina	10
Marina/launch/dry	4
Marina/launch	4
Marina/dry	0
Launch/dry	1
"No facility"	1
	30

Launch Ramps

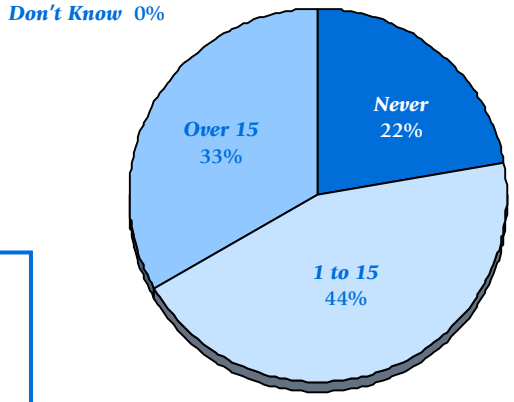
	Number
Lanes Available	40
Trailer Parking Spaces	862
Boarding Floats	30
Carry-down Walkways	29

Facility Ownership

	Number of Facilities
Government	21
Non-Government	9

Frequency Launch Ramp Reaches Capacity

N=18



Wet Storage

	Open Berths	Covered Berths	Moorings
Total	2,874	—	205
% Occupancy*	79%	—	87%

* Occupancy calculated for facilities with both capacity and occupancy information for the second half of 2000.

Monthly Rental Rates

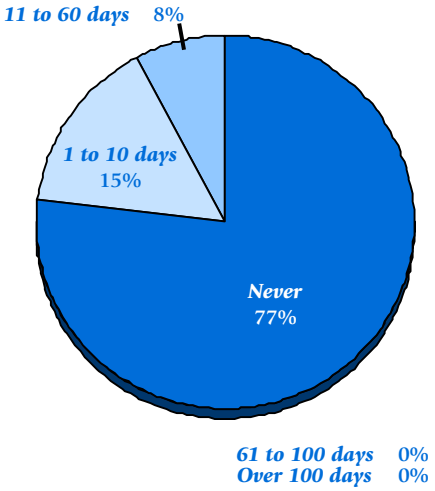
$ per space or slip

Facility Type	Average	Minimum	Maximum
Dry Storage	$42	$30	$60
Open Berths	144	35	345
Covered Berths	—	—	—
Moorings	76	30	121
Transient*	14	5	35

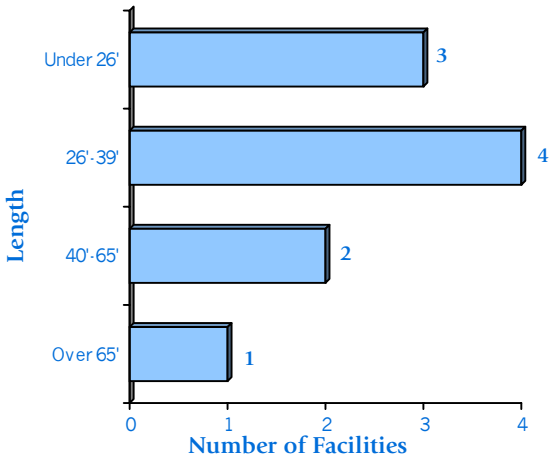
* Rate per night

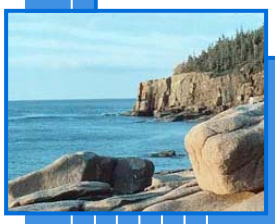
Frequency Transients were Turned Away in 2000

N=13



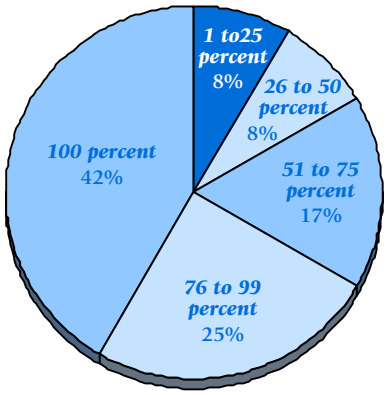
Open Slip Vacancies





Open Slip Occupancy Rates

N=12



Estimated Costs for Repairs, Replacement, Expansion, and Additions

Facility Type	Number with Needs	Number with Costs	Within 2 Years	2 to 5 Years	5 to 10 Years
Launch Ramps	17	13	$ 1,319,000	$2,007,000	$3,059,000
Dry Storage	6	5	210,000	560,000	125,000
Wet Storage - Waterside	11	8	930,000	495,000	940,000
Wet Storage - Landside	10	7	1,860,000	650,000	450,000
Total*	**44**	**33**	**$4,319,000**	**$3,712,000**	**$4,574,000**

* Facilities may be included more than once if repairs are needed at more than one facility type.

Waterway Problems*

Boater Survey	Waterways
Dangerous water conditions	Humboldt Bay, Pacific Ocean, Noyo River
Insufficient water depth	Pacific Ocean, Trinidad Harbor
Parking capacity	Humboldt Bay
Security in parking area	Humboldt Bay
Reckless boaters	Bodega Bay
Law Enforcement Survey	**Waterways**
Congestion on waterway	Klamath River, Pacific Ocean, Smith River
High frequency of collisions/accidents	Humboldt Bay, Klamath River
High frequency of fatalities	Klamath River, Trinity River
Inadequate maintenance of vessels/PWCs	Humboldt Bay, Pacific Ocean
Rude/argumentative/violent boaters	Klamath River, Smith River
High frequency of search and rescue missions	Pacific Ocean
Restrictions due to wildlife/ environmental protection	Big Lagoon
Slow speed limit/no wake zone	Big Lagoon
Workshop Participants	**Waterways**
Insufficient water depth	Humboldt Bay (Arcata, Eureka Public Marina), Lake Mendocino
ADA compliance	Humboldt Bay
Dangerous water conditions	Humboldt Bay (Eureka Public Marina)
Floating debris, poor water quality	Humboldt Bay (Woodley Island)
Gas pump facility	Humboldt Bay
DBW 2000 Boating Safety Report	**Waterways**
	None

* Problems in bold were identified by more than one source.

Waterway Facility Needs*

Boater Survey	Waterways
More capacity	All of top 10 waterways
Ramp repairs	Humboldt Bay, Pacific Ocean
Better waste pumpout	Pacific Ocean
Dredging	Humboldt Bay
Launching capacity	Humboldt Bay
Security	Noyo River
Facility Survey	**Waterways**
Dredging	Albion River, Big Lagoon, Bodega Bay, Humboldt Bay, Noyo River, Petaluma River
Improve restrooms	Humboldt Bay, Lake Mendocino, Smith River
Launching capacity	Big Lagoon, Bodega Bay, Humboldt Bay
Dock repairs	Albion River, Lake Mendocino
Gas pump facility	Humboldt Bay, Lake Mendocino
Improve/add breakwater	Noyo River, Shelter Cover
Parking capacity	Lake Mendocino, Shelter Cove
Ramp repairs	Klamath River, Pacific Ocean
General facility improvements	Bodega Bay
More dry storage	Humboldt Bay
Non-motorized craft launch	Humboldt Bay
Law Enforcement Survey	**Waterways**
Launching capacity	Klamath River, Pacific Ocean
Add docks	Klamath River
Improve signage	Trinity River
No speed limit area	Big Lagoon
Workshop Participants	**Waterways**
Ramp repairs	Big Lagoon, Field's Landing, Humboldt Bay (several locations), Shelter Cove
Non-motorized craft launch	Humboldt Bay, Lagoons, Mad River Slough
Dredging	Humboldt Bay (several locations), Lake Mendocino,
Abandoned vessels	Humboldt Bay
ADA compliance	Humboldt Bay
Courtesy docks	Lake Mendocino
Gas pump facility	Humboldt Bay
General facility improvements	Shelter Cove
Improve/add breakwater	Shelter Cove
Improve restrooms	Humboldt Bay
Launching capacity	Freshwater Lagoon
Parking capacity	Field's Landing

* Facility Needs in bold were identified by more than one source.

2. San Francisco Bay Region

Geography

The region is predominantly urban, with a population of 6.5 million. It was historically devoted to trade but recently has grown most in the manufacturing and service sectors. The large cities in the region include San Francisco, Oakland, and San Jose. San Francisco Bay provides numerous sheltered harbors adjacent to population centers. Inland waterways include the extensive Sacramento-San Joaquin Delta and many lakes. Bay and ocean waters are cold, somewhat hazardous, and not conducive to cruising, but provide excellent fishing and day sailing.

Boats

Boat ownership in the region is average relative to population, with 158,000 boats or 2.45 boats per hundred people. Small outboards and I/Os are the most popular types, followed by PWCs. The fleet is quite young, with a median age of 15 years.

Boating Activity

Boaters of the region most often use San Francisco Bay and the Sacramento-San Joaquin Delta.

Some also mentioned the following as their primary waterway:

1. Lake Berryessa
2. Clear Lake
3. Sacramento River
4. Lake Tahoe
5. San Joaquin River
6. San Pablo Bay
7. Pacific Ocean
8. Anderson Lake
9. Napa River
10. Monterey Bay

Facilities

There are a large number of facilities in the San Francisco Bay Area, accounting for 18 percent of the total facilities in the state. The majority of facilities are privately-owned, although there are at least 50 government-owned facilities, including many municipal marinas.

Pressure on launch ramps is relatively high, with over one-third of launch facilities reaching capacity more than 15 times per year. Overall occupancy rates for both open and closed berths are high, over 90 percent for those facilities reporting. Almost one-half of the facilities reported 100 percent occupancy. Most facilities report vacancies in the under-26 feet and 26 feet to 39 feet ranges. Over one-half of the facilities report turning away transients, with 13 percent turning away transients more than 60 days per year.

Problems

There were a large number of problems identified by law enforcement officers, and relatively few through the surveys and workshops. Problems mentioned most frequently include congestion on waterways and launch ramps, accidents, inadequate facilities, and sensitive ecosystems/unsound boater habits. Waterways with multiple problems include:

- Lake Berryessa –
  - accidents
  - BUIs/DUIs
  - congestion at launch ramps
  - facilities inadequate
  - high frequency of fatalities
  - illegal swimmers
  - insufficient water depth
  - parking capacity
  - rowdy partiers
  - vandalism
- San Francisco Bay –
  - accidents
  - dangerous water conditions
  - facilities inadequate
  - fatalities
  - inexperienced boaters
  - problems with liveaboards
  - reckless boaters
  - rowdy partiers
- Sacramento-San Joaquin Delta –
  - accidents
  - congestion at launch ramps
  - congestion on waterway
  - invasive species
  - reckless boaters
  - reckless PWC operators
  - reckless water skiers
- Suisun Bay –
  - BUIs/DUIs
  - dock/ramp damaged
  - insufficient water depth
  - ramps too steep
  - substandard boating equipment
- Mare Island Strait –
  - boat ramps too steep
  - BUIs/DUIs
  - dock/ramp damaged
  - substandard boating equipment
- San Pablo Bay –
  - accidents
  - facilities in disrepair
  - lack of pumpout facilities
  - vandalism
- Richardson Bay –
  - congestion on waterway
  - sensitive ecosystems/unsound boater habits.

Facility Needs

The facility needs mentioned most frequently in the San Francisco Bay Region include: dredging, launching capacity, general facility improvements, dock repairs, more dry storage, gas pump facilities, better waste pumpout, boat slips, and ramp repairs. Several waterways in the region had multiple facility needs, including:

- San Francisco Bay –
  - better waste pumpout
  - boat slips
  - dock repairs
  - dredging
  - dry storage
  - gas pump facilities
  - general facility improvements
  - improved signage
  - information kiosk
  - larger boat slips
  - launching capacity
  - more capacity
  - non-motorized craft launches
  - security
  - transient slips/guest docks
- Sacramento-San Joaquin Delta –
  - beach areas
  - better speed markers
  - better waste pumpout
  - boat slips
  - boating destinations
  - dock repairs
  - dredging
  - dry storage
  - gas pump facilities
  - general facility improvements
  - launching capacity
  - larger boat slips
  - more boating parks
  - parking capacity
- Lake Berryessa –
  - add facilities
  - launching capacity
  - more dry storage
  - parking capacity
  - paved parking lot
  - transient slips/guest docks
- Carquinez Strait –
  - dredging
  - gas pump facility
  - general facility improvements
  - launching capacity
  - parking capacity
- Oakland Estuary –
  - boat slips
  - dock repairs
  - dredging
  - gas pump facility
  - larger boat slips
- San Pablo Bay –
  - boat slips
  - dock repairs
  - general facility improvements
  - oil-water separation technology

- Suisun Bay –
  - boat slips
  - dock repairs
  - dredging
  - ramp repairs
- Mare Island Strait –
  - dock repairs
  - dredging
  - ramp repairs
- Napa River –
  - dredging
  - gas pump facility
  - transient slips/guest docks
- Alameda Bay –
  - boat slips
  - dry storage
- Tomales Bay –
  - gas pump facility
  - ramp repairs.

San Francisco Bay Waterways*

Waterway	Launch Ramp	Dry Storage	Wet Storage
Alameda Bay		✓	
Anderson Lake	✓		✓
Bethany Reservoir	✓		
Calero Reservoir	✓		
Carquinez Strait	✓	✓	✓
Chesbro Reservoir	✓		
Contra Loma Reservoir	✓		
Coyote Lake	✓		
Del Valle Reservoir	✓		
Lagoon Valley Lake	✓		
Lake Berryessa	✓	✓	✓
Lake Chabot	✓		
Lake Cunningham	✓		
Lake Elizabeth	✓	✓	✓
Lake Hennessey	✓		
Lake Merced	✓		
Lake Merrit	✓		
Lake Ralphine	✓		
Lake Solano	✓		✓
Lexington Reservoir	✓		
Mare Island Strait	✓	✓	✓
Napa River	✓	✓	✓
Oakland Estuary	✓	✓	✓

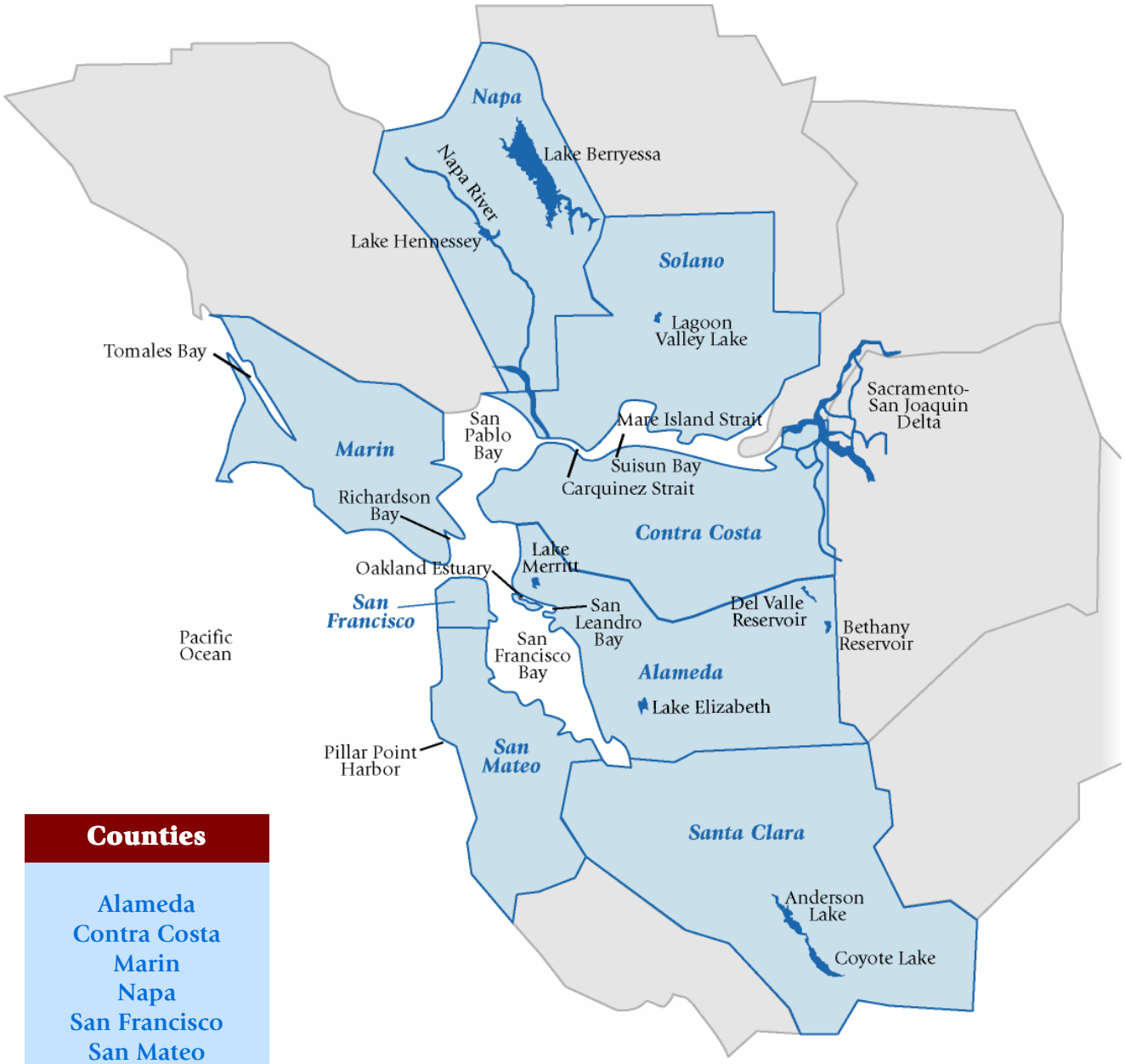
* Waterways in italics have boating facilities but were not included in the 646 facilities in the full BNA Survey.

San Francisco Bay Waterways* *(cont.)*

Petaluma River	✓		✓
Pillar Point Harbor	✓		✓
Richardson Bay (estuary, arm of S.F. Bay)	✓	✓	✓
Sacramento-San Joaquin Delta	✓	✓	✓
San Francisco Bay - San Mateo Marina Lagoon	✓		✓
San Francisco East Bay	✓	✓	✓
San Francisco North Bay	✓	✓	✓
San Francisco South Bay	✓	✓	✓
San Francisco West Bay		✓	✓
San Leandro Bay	✓		
San Pablo Bay		✓	✓
San Pablo Reservoir	✓		
San Rafael Canal			✓
Shadow Cliffs Lake	✓		
Smith's Slough		✓	✓
Spring Lake	✓		
Steven's Creek Reservoir	✓		
Suisun Bay	✓	✓	✓
Tomales Bay	✓	✓	✓
Uvas Reservoir	✓		
Vasona Lake	✓	✓	

* Waterways in italics have boating facilities but were not included in the 646 facilities in the full BNA Survey.

San Francisco Bay Region Key Waterways

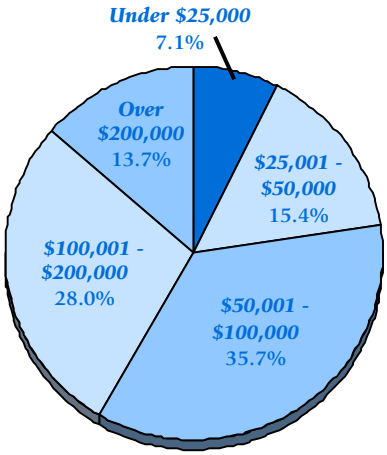


Counties

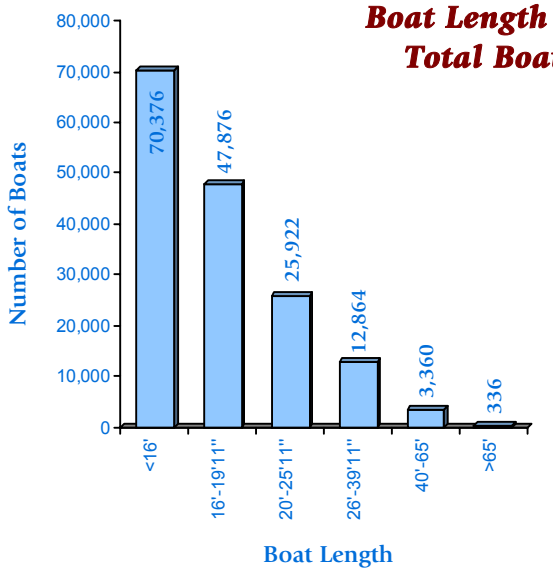
Alameda
Contra Costa
Marin
Napa
San Francisco
San Mateo
Santa Clara
Solano

Boats and Boaters

Boater Income Levels

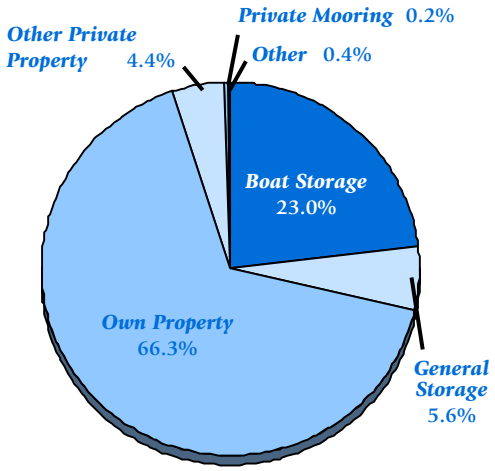


Boat Length – Total Boats



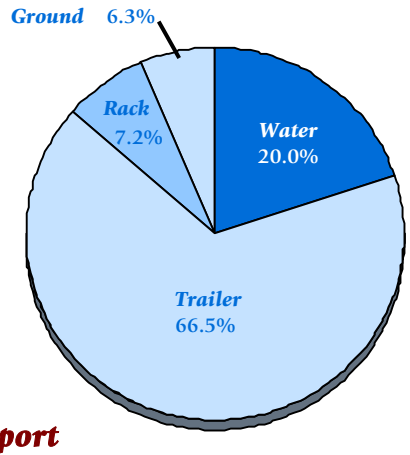
Population:	6,468,700
Total Registered/Documented Vessels:	158,223
Boats per 100 people:	2.45
Mean boater age:	54.6

Boat Storage Facilities



Mean Trips in 2000:	25.0
Mean Days used in 2000:	45

Boat Storage Support



Percent of boats unused in 2000:	14.0
Annual ownership expense:	$2,276
Mean daily trip spending:	$141

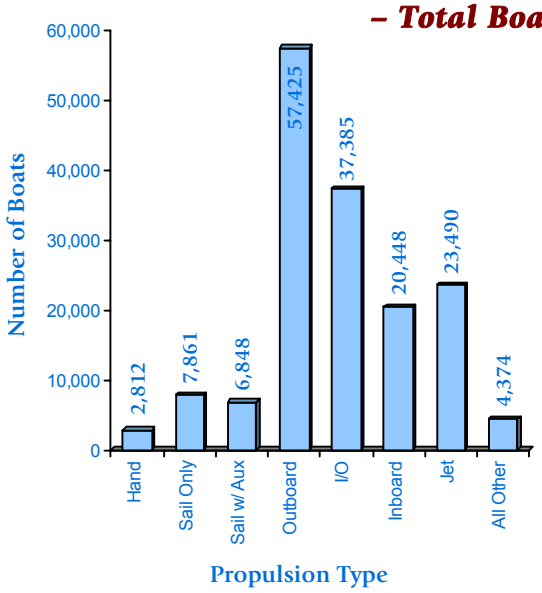
Top 10 Waterways

1. San Francisco Bay
2. Sacramento-San Joaquin Delta
3. Lake Berryessa
4. Clear Lake (SB)
5. Sacramento River (SB)
6. Lake Tahoe (SB)
7. San Joaquin River (CV)
7. San Pablo Bay
9. Pacific Ocean
10. Anderson Lake
10. Napa River

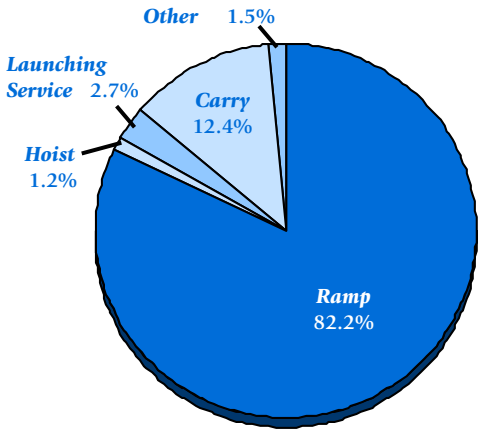
Top 5 Reasons to Use a Waterway

1. Close to home
2. Good fishing
3. Convenience
4. Near vacation home or camp
5. Pleasure

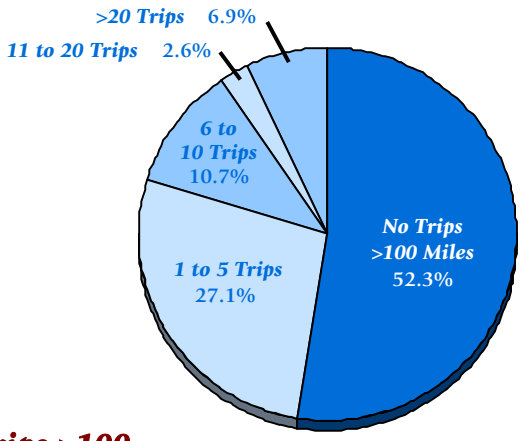
Propulsion Type – Total Boats



Launch Methods



Trips >100 Miles from Home



Facilities and Needs

Facility Count

	Total	Launch	Dry	Wet
Facilities in Survey	138	73	57	112
Facilities not in Survey	11	17	1	3
Percent Surveyed	93%	81%	98%	97%
Region as % of State	18%	16%	26%	21%

Facility Type

	Number
Launch	20
Dry Storage	1
Marina	44
Marina/launch/dry	33
Marina/launch	16
Marina/dry	19
Launch/dry	4
"No facility"	1
	138

Dry Storage

Capacity	7,999
% Occupancy*	74%

Launch Ramps

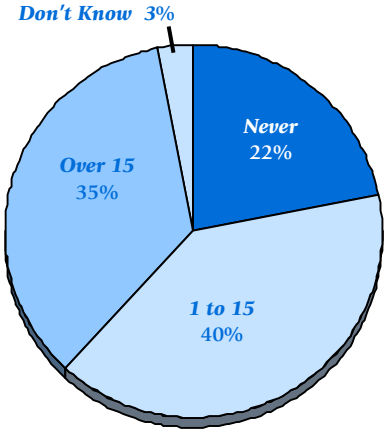
	Number
Lanes Available	174
Trailer Parking Spaces	4,354
Boarding Floats	193
Carry-down Walkways	93

Facility Ownership

	Number of Facilities
Government	50
Non-Government	88

Frequency Launch Ramp Reaches Capacity

N=60



Wet Storage

	Open Berths	Covered Berths	Moorings
Total	20,695	3,224	1,491
% Occupancy*	91%	91%	95%

* Occupancy calculated for facilities with both capacity and occupancy information for the second half of 2000.

Monthly Rental Rates

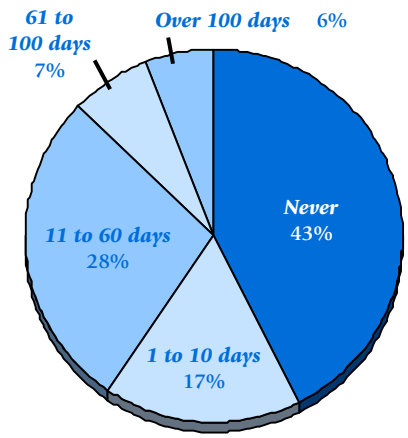
$ per space or slip

Facility Type	Average	Minimum	Maximum
Dry Storage	$83	$20	$300
Open Berths	204	50	725
Covered Berths	212	63	590
Moorings	113	60	165
Liveaboards	273	60	510
Transient**	17	5	50

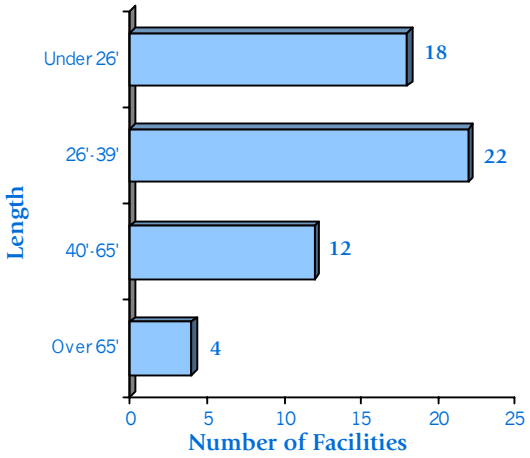
* Rate per night

Frequency Transients were Turned Away in 2000

N=72

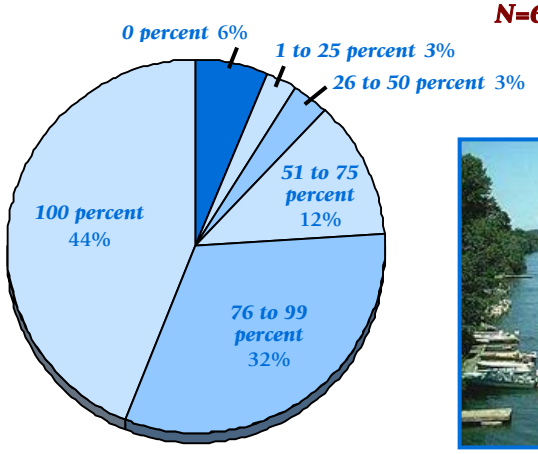


Open Slip Vacancies



Open Slip Occupancy Rates

N=68



Estimated Costs for Repairs, Replacement, Expansion, and Additions

Facility Type	Number with Needs	Number with Costs	Within 2 Years	2 to 5 Years	5 to 10 Years
Launch Ramps	42	31	$4,214,400	$2,837,400	$2,259,000
Dry Storage	24	13	1,445,100	1,830,200	385,500
Wet Storage - Waterside	63	47	24,134,000	50,773,000	20,640,000
Wet Storage - Landside	49	41	30,317,000	18,170,000	28,705,000
Total*	**178**	**132**	**$60,110,500**	**$73,610,600**	**$51,989,500**

*Facilities may be included more than once if repairs are needed at more than one facility type.

Waterway Problems*

Boater Survey	Waterways
Congestion at launch ramps	Lake Berryessa, Sac-San Joaquin Delta
Reckless boaters	Sac-San Joaquin Delta, SF Bay
Reckless PWC operators	Lake Sonoma, Sac-San Joaquin Delta
Invasive species	Sac-San Joaquin Delta
Congestion on waterway	SF Bay
Insufficient water dept	Lake Berryessa
Law Enforcement Survey	**Waterways**
Congestion on waterway	Anderson Lake, Callero Reservoir, Coyote Lake, Lake Berryessa (South Finger, Capell Cove, The Narrows, Spanish Flat, Steele Park), Richardson Bay, Sac-San Joaquin Delta (Discovery Bay)
Congestion at launch ramps	Anderson Lake, Callero Reservoir, Coyote Lake, Lake Berryessa (Spanish Flat, Capell Cove, Steele Park),
BUIs/DUIs	Lake Berryessa (Pope Creek Bridge), Mare Island Strait, Suisun Bay
High frequency of accidents	Sac-San Joaquin Delta (Discovery Bay), Lake Berryessa (The Narrows, Pope Creek Bridge, Spanish Flatt, Capell Cove, Steele Park), SF Bay (Pillar Point Reef)
Boat ramps too steep	Mare Island Strait, Suisun Bay
Dock/ramp damaged	Mare Island Strait, Suisun Bay
Dredging	Mare Island Strait, Suisun Bay
High frequency of fatalities	Lake Berryessa (Pope Creek Bridge), SF Bay (Pillar Point Reef)
Rowdy partiers	Lake Berryessa (Pope Creek Bridge), SF Bay (Coyote Point)
Substandard boating equipment	Mare Island Strait, Suisun Bay
Vandalism/theft	Lake Berryessa (Capell Cove, Oak Shores, Smittle Creek, Markley), San Pablo Bay (Vallejo)
Alcohol consumption/drunkenness	Lake Berryessa (Pope Creek Bridge)
Dangerous water conditions	SF Bay (Pillar Point Reef)
Facilities inadequate	Lake Berryessa (Capell Cove)
Illegal swimmers	Lake Berryessa (Pope Creek Bridge)
Inexperienced boaters	SF Bay (Pillar Point Reef)
Insufficient water depth	Suisun Bay
Lack of pumpout facilities	San Pablo Bay (Vallejo)
Operators ignore speed limits/rules and regulations	Sac-San Joaquin Delta (Sandy Beach)
Parking capacity	Lake Berryessa (Capell Cove)
Problem with liveaboards	SF Bay (Oyster Point)
Reckless/excessive PWC operators	Sac-San Joaquin Delta (Sandy Beach, Steamboat Slough)
Reckless/excessive water skiers	Sac-San Joaquin Delta (Steamboat Slough)
Requires constant law enforcement presence	Lake Berryessa (Pope Creek Bridge)
Sensitive ecosystems/unsound boater habits	Richardson Bay
Trash	SF Bay (Coyote Point)

* Problems in bold were identified by more than one source.

Waterway Problems* *(continued)*

Workshop Participants	Waterways
Boat ramps too shallow	Tomales Bay
Excessive speed of boats	Discovery Bay
Facilities in disrepair	San Pablo Bay
Facilities inadequate	SF Bay (East)
Sensitive ecosystems/unsound boater habits	Bodega Bay

DBW 2000 Boating Safety Report	Waterways
High frequency of accidents	Sac-San Joaquin Delta, San Pablo Bay, SF Bay Area, Lake Berryessa, Pacific Ocean

* Problems in bold were identified by more than one source.

Waterway Facility Needs*

Boater Survey	Waterways
Gas pump facility	Carquinez Strait, Napa River, Sac-San Joaquin Delta, SF Bay
More capacity	Anderson Lake, Clear Lake, Napa River, SF Bay
Dredging	Sac-San Joaquin Delta, SF Bay, Lake Sonoma
Better waste pumpout	Sac-San Joaquin Delta, SF Bay
Launching capacity	Lake Berryessa, Sac-San Joaquin Delta
Better facilities	SF Bay
Dock repairs	San Pablo Bay
Parking capacity	Lake Berryessa
Ramp repairs	Lake Sonoma

Facility Survey	Waterways
Dredging	Carquinez Strait, Coyote Lake, Lake Elizabeth, Napa River, Oakland Estuary, Pillar Point Harbor, Sac-San Joaquin Delta, SF Bay (all but West Bay), Suisun Bay
Needs boat slips	Alameda Bay, Oakland Estuary, SF East Bay, SF North Bay, SF West Bay, San Pablo Bay, Suisun Bay, Sac-San Joaquin Delta
Gas pump facility	Oakland Estuary, Sac-San Joaquin Delta, SF North Bay, SF South Bay, SF West Bay, Tomales Bay
Parking capacity	Carquinez Strait, Lake Berryessa, Lexington Reservoir, Sac-San Joaquin Delta, Steven's Creek Reservoir, Vasona Lake
Dock repairs	Anderson Lake, Del Valle Reservoir, Lake Chabot, Oakland Estuary, Sac-San Joaquin Delta, SF Bay
More dry storage	Alameda Bay, Lake Berryessa, Sac-San Joaquin Delta, SF East Bay, SF West Bay
Launching capacity	Carquinez Strait, Lake Berryessa, Sac-San Joaquin Delta, SF North Bay, Tomales Bay
Better waste pumpout	Lake Berryessa, Oakland Estuary, Sac-San Joaquin Delta, SF Bay (All)
General facility improvements	Carquinez Strait, San Pablo Bay, SF Bay (All), Suisun Bay
Larger boat slips	Oakland Estuary, Sac-San Joaquin Delta, SF East Bay, SF West Bay
Transient slips/guest docks	Lake Berryessa, Napa River, SF North Bay, SF West Bay

* Facility Needs in bold were identified by more than one source.

Waterway Facility Needs* *(continued)*

Law Enforcement Survey	Waterways
Launching capacity	Anderson Lake, Callero Reservoir, Coyote Reservoir
Better waste pumpout	Richardson Bay, San Pablo Bay (Vallejo)
Dock repairs	Mare Island Strait, Suisun Bay
Dredging (lake bed needs to be leveled)	Mare Island Strait, Suisun Bay
Ramp repairs	Mare Island Strait, Suisun Bay
Security	San Pablo Bay (Vallejo), SF Bay (Coyote Point)
Add facilities	Lake Berryessa (Pope Creek Bridge)
Beach area	Sac-San Joaquin Delta (Discovery Bay)
Better speed markers	Sac-San Joaquin Delta (Sandy Beach)
Boating destinations	Sac-San Joaquin Delta (Discovery Bay)
General facility improvements	Lake Berryessa (Capell Cove)
Improved signage	SF Bay (Pillar Point Reef)
Information kiosk	SF Bay (Pillar Point Reef)
More boating parks	Sac-San Joaquin Delta (Discovery Bay)
Oil-water separation technology	San Pablo Bay (Vallejo)
Paved parking lot	Lake Berryessa (Capell Cove)

Workshop Participants	Waterways
Launching capacity	Discovery Bay (Delta), Bodega Bay
More dry storage	Discovery Bay (Delta), SF Bay Area (All)
Needs boat slips	Sac-San Joaquin Delta, SF Bay (East)
Beach area	Sac-San Joaquin Delta
Better waste pumpout	Bodega Bay
Dock repairs	San Pablo Bay
General facility improvements	Sac-San Joaquin Delta (Bethel Island area)
Improve restrooms	Sac-San Joaquin Delta
Non-motorized craft launch	SF Bay Area (All)
Ramp repairs	Tomales Bay

* Facility Needs in bold were identified by more than one source.

3. Central Coast Region

Geography

The region, with a population of 923,000, is predominantly rural. It was historically devoted to agriculture, fisheries, and defense, but recently it has seen strong growth in the tourism and service sectors. The medium-sized cities in the region are Santa Cruz, Salinas, Monterey, and San Luis Obispo. Its navigable waters include the Pacific Ocean and two large inland lakes, but few protected harbors.

Boats

Boat ownership in the region is relatively high relative to population, with 31,000 boats or 3.32 per hundred people. Small and medium sized outboards are the most popular types, followed by PWCs. As in the North Coast, about 3 percent are licensed for commercial or fishery use. Medium-sized cruising sailboats are more popular here than in any other region. The fleet is moderately young with a median age of 18.

Boating Activity

Boaters of the region most often use Lake Nacimiento and Monterey Bay.

Some also mentioned the following as their primary waterway:

1. Lake San Antonio
2. Pacific Ocean
3. Lopez Lake
4. Morro Bay
5. Santa Margarita Lake

Facilities

There are a relatively small number of facilities in the Central Coast region, accounting for only 3 percent of the statewide total. More than one-half of the facilities are government-owned. Pressure on launch ramps is moderate, with just over one-half of the facilities reporting that they reach capacity 1 to 15 times per year.

The overall occupancy rate for open berths is moderate, at 82 percent; however nine of the 14 facilities reporting were at 100 percent occupancy and waiting lists at some marinas are years long. There are no facilities with covered berths. Transients were turned away during 2000 at 7 facilities; however 6 facilities reported not turning away transients.

Problems

There were relatively few problems in the Central Coast region. Problems related to insufficient water depth, crowding, and congestion were mentioned most frequently. In addition, environmental restrictions were a problem in some coastal waterways. Key problems are summarized below by waterway:

- Monterey Bay –
  - environmental restrictions
  - excessive or rude law enforcement
  - insufficient water depth
  - not enough permanent slips
  - overcrowding
  - reckless boaters

- Morro Bay –
  - dangerous water conditions
  - insufficient water depth
  - launch ramp congestion
  - restrictions due to wildlife/environmental protection
- Lake Nacimiento –
  - overcrowding
  - operators ignore speed limits, rules, regulations
  - security in boat storage area
- Pacific Ocean (Santa Cruz County Beaches) –
  - congestion
  - high frequency of accidents
- Lopez Lake –
  - overcrowding.

Facility Needs

The most commonly mentioned facility need in this region was increasing capacity, in all categories – berths, moorings, launch ramps, dry storage, and non-motorized craft launches. Facility needs identified by waterway are as follows:

- Monterey Bay –
  - dock repairs
  - dredging
  - launching capacity
  - more capacity
  - more dry storage
  - non-motorized craft launch
  - transient slips/guest docks
- Morro Bay –
  - dredging
  - launching capacity
  - more capacity
  - more dry storage
  - reconfigure facilities
- Moss Landing Harbor (in Monterey Bay) –
  - abandoned vessels
  - more capacity
  - non-motorized craft launch
  - regulate noise from electric plant
- Lake Nacimiento –
  - dock repairs
  - launching capacity
- Pacific Ocean (Santa Cruz County Beaches) –
  - buoy markers
  - more facilities
- Santa Margarita Lake –
  - dry storage
  - gas pump facility.

Central Coast Waterways*

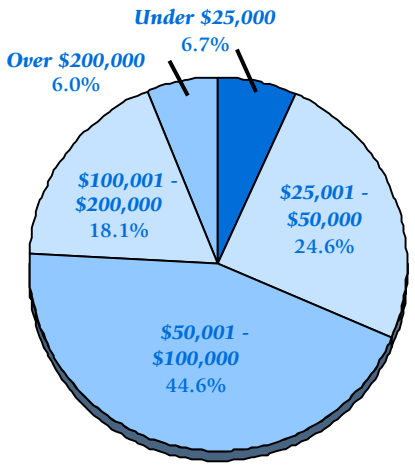
Waterway	Launch Ramp	Dry Storage	Wet Storage
Elkhorn Slough	✓		
Laguna Lake	✓		
Lake El Estero			✓
Lake Nacimiento	✓	✓	✓
Lake San Antonio	✓	✓	✓
Loch Lomond Reservoir	✓		
Lopez Lake	✓	✓	✓
Monterey Bay	✓	✓	✓
Morro Bay	✓		✓
Pinto Lake	✓		
Port San Luis Harbor	✓	✓	✓
Santa Margarita Lake	✓	✓	✓

* Waterways in italics have boating facilities but were not included in the 646 facilities in the full BNA Survey.

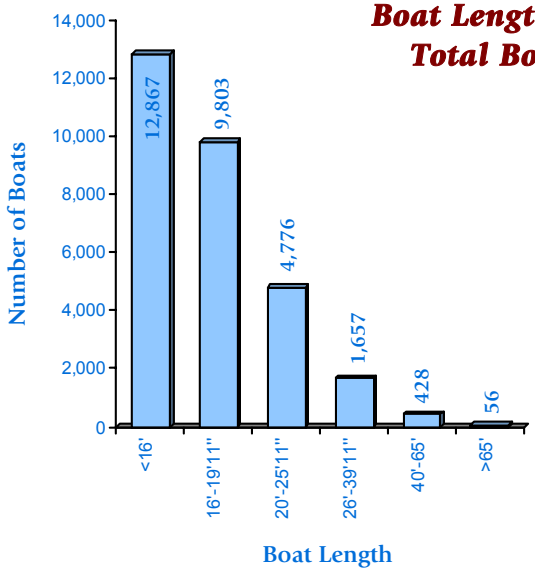
Central Coast Region Key Waterways

Boats and Boaters

Boater Income Levels

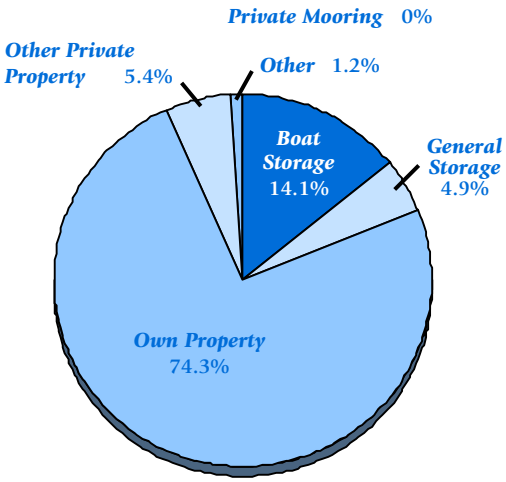


Boat Length – Total Boats



Population:	922,700
Total Registered/Documented Vessels:	30,617
Boats per 100 people:	3.32
Mean boater age:	54.1

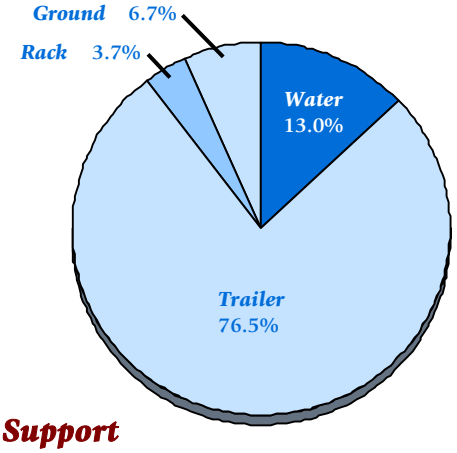
Boat Storage Facilities



Mean Trips in 2000:	23
Mean Days used in 2000:	39

Percent of boats unused in 2000:	12.0
Annual ownership expense:	$1,382
Mean daily trip spending:	$115

Boat Storage Support



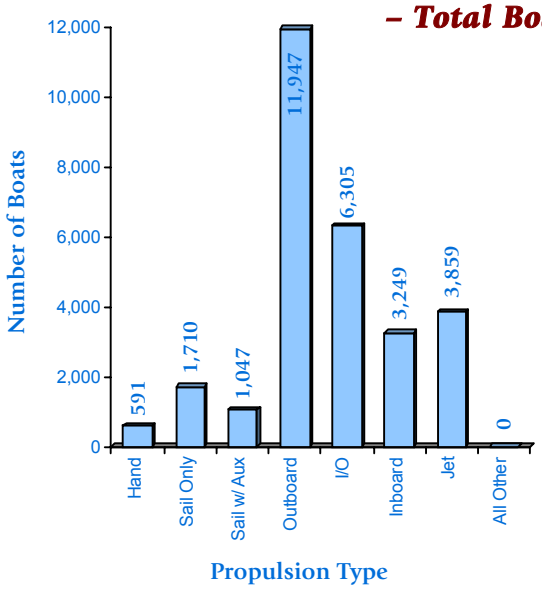
Top 10 Waterways

1. Lake Nacimiento
2. Monterey Bay
3. Lake San Antonio
4. Pacific Ocean
5. Lopez Lake
6. Morro Bay
7. Santa Margarita Lake
8. Loch Lomond Reservoir
9. Moss Landing
9. Sacramento River (SB)
9. San Luis Reservoir (CV)

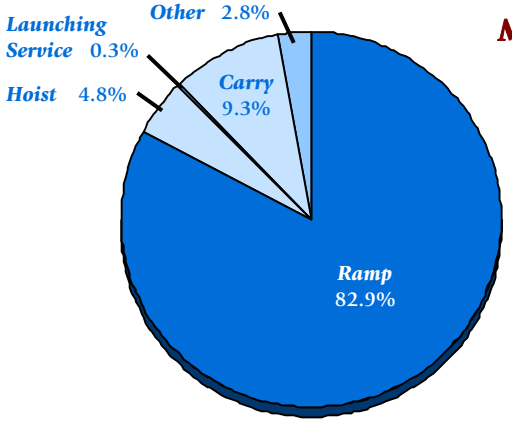
Top 5 Reasons to Use a Waterway

1. Close to home
2. Good fishing
3. Convenience
4. Near vacation home or camp
5. Water skiing

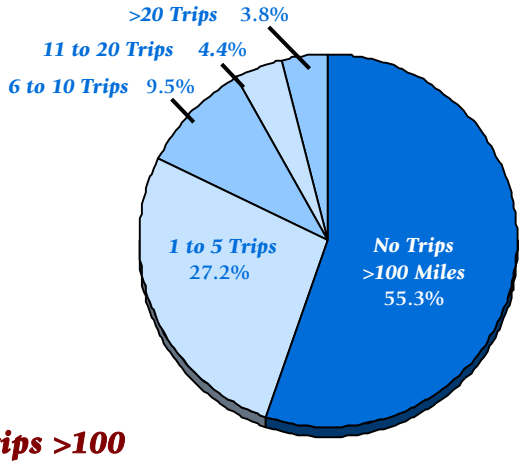
Propulsion Type – Total Boats



Launch Methods



Trips >100 Miles from Home



Facilities and Needs

Facility Count

	Total	Launch	Dry	Wet
Facilities in Survey	21	14	10	18
Facilities not in Survey	3	4	—	1
Percent Surveyed	88%	78%	100%	95%
Region as % of State	3%	3%	5%	4%

Facility Type

	Number
Launch	2
Dry Storage	1
Marina	5
Marina/launch/dry	8
Marina/launch	4
Marina/dry	1
Launch/dry	0
"No facility"	0
	21

Dry Storage

Capacity	641
% Occupancy*	80%

Launch Ramps

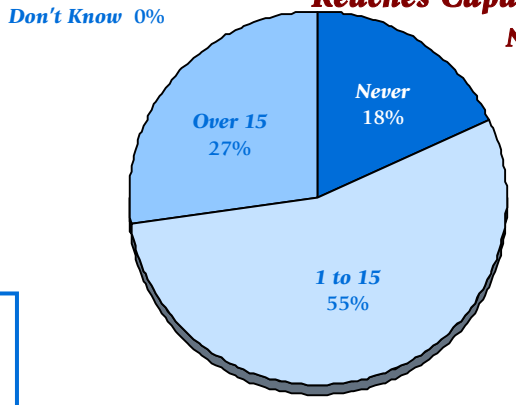
	Number
Lanes Available	60
Trailer Parking Spaces	615
Boarding Floats	63
Carry-down Walkways	30

Facility Ownership

	Number of Facilities
Government	12
Non-Government	9

Frequency Launch Ramp Reaches Capacity

N=11



Wet Storage

	Open Berths	Covered Berths	Moorings
Total	3,138	—	506
% Occupancy*	82%	—	56%

occupancy information for the second half of 2000.

Monthly Rental Rates

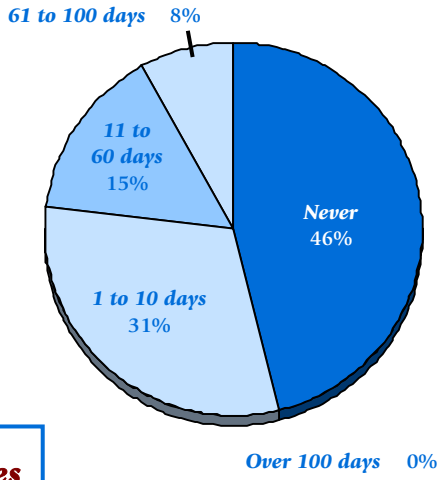
$ per space or slip

Facility Type	Average	Minimum	Maximum
Dry Storage	$52	$25	$150
Open Berths	275	30	500
Covered Berths	—	—	—
Moorings	135	60	260
Transient*	16	5	70

* Rate per night

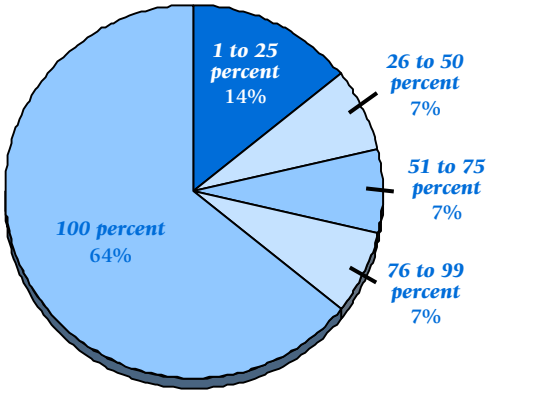
Frequency Transients were Turned Away in 2000

N=13



Open Slip Occupancy Rates

N=14



Estimated Costs for Repairs, Replacement, Expansion, and Additions

Facility Type	Number with Needs	Number with Costs	Within 2 Years	2 to 5 Years	5 to 10 Years
Launch Ramps	7	5	$750,000	$1,725,000	$2,350,000
Dry Storage	5	5	176,500	650,000	250,000
Wet Storage - Waterside	13	12	1,668,000	15,320,000	7,280,000
Wet Storage - Landside	10	10	10,770,000	5,460,000	5,150,000
Total*	**35**	**32**	**$13,364,500**	**$23,155,000**	**$15,030,000**

*Facilities may be included more than once if repairs are needed at more than one facility type.

Waterway Problems*

Boater Survey	Waterways
Overcrowding	Lake Nacimiento, Lopez Lake, Monterey Bay
Insufficient water depth	Monterey Bay, Morro Bay
Reckless PWC operators	Lake Nacimiento, Lopez Lake
Environmental restrictions	Monterey Bay
Security in boat storage area	Lake Nacimiento
Reckless boaters	Monterey Bay
Law Enforcement Survey	**Waterways**
Sensitive ecosystems/unsound boater habits	Moss Landing Harbor, Pacific Ocean (Santa Cruz County Beaches)
Poor water quality	Moss Landing Harbor, Schwan Lake
Alcohol consumption	Pacific Ocean (Santa Cruz County Beaches)
Congestion on waterway	Pacific Ocean (Santa Cruz County Beaches)
Dangerous water conditions	Morro Bay (Harbor entrance)
Excessive noise	Moss Landing Harbor
High frequency of accidents	Pacific Ocean (Santa Cruz County Beaches)
High frequency of fatalities	Pacific Ocean (Santa Cruz County Beaches)
Lack of lifeguard presence	Pacific Ocean (Santa Cruz County Beaches)
Operators ignore speed limits/rules and regulations	Lake Nacimiento
Restrictions due to wildlife/ environmental protection	Morro Bay
Rude/argumentative/violent boaters	Pacific Ocean (Santa Cruz County Beaches)
Workshop Participants	**Waterways**
Not enough permanent slips	Monterey Bay
Restrictions due to wildlife/ environmental protection	Monterey Bay
DBW 2000 Boating Safety Report	**Waterways**
High frequency of accidents	Pacific Ocean

* Problems in bold were identified by more than one source.

Waterway Facility Needs*

Boater Survey	Waterways
Launching capacity	Lake Nacimiento, Lopez Lake, Monterey Bay, Morro Bay, Pacific Ocean
Dock repairs	Lake Nacimiento, Lopez Lake, Monterey Bay
More capacity	Monterey Bay, Morro Bay, Moss Landing (Monterey Bay)
Facility Survey	**Waterways**
Dredging	Laguna Lake, Monterey Bay, Morro Bay, Port San Luis Harbor
Launching capacity	Lake Nacimiento, Lopez Lake, Morro Bay
More dry storage	Monterey Bay, Morro Bay, Santa Margarita Lake
Gas Pump Facility	Lake San Antonio, Santa Margarita Lake
Law Enforcement Survey	**Waterways**
Buoy markers	Pacific Ocean (Santa Cruz County Beaches)
Not enough facilities	Pacific Ocean (Santa Cruz County Beaches)
Reconfigure facilities	Morro Bay (Harbor Entrance)
Regulate noise from electric plant	Moss Landing Harbor
Workshop Participants	**Waterways**
More dry storage	Monterey Bay, Santa Cruz Harbor
Abandoned vessels	Moss Landing Harbor (Monterey Bay)
Non-motorized craft launch	Monterey Bay (sloughs, Moss Landing Harbor)
Transient slips/guest docks	Monterey Bay

* Facility Needs in bold were identified by more than one source.

4. South Coast Region

Geography

The region is predominantly urban, with 13.9 million people and a diverse metropolitan economy. The large cities in the region include the Santa Barbara, Oxnard-Ventura, Los Angeles and Anaheim metropolitan areas. Coastal waters are warm and sheltered by the orientation of the coast and the presence of offshore islands, but there are no natural harbors and artificial ones other than the Los Angeles-Long Beach Harbor, which is largely pre-empted by shipping, are few and small. There are few lakes in the region.

Boats

At 245,000 boats, boat ownership in the region is only 1.76 per hundred people. PWCs are the most popular type of boat, followed by small outboards and then by medium-sized I/Os. The fleet is relatively young, with a median age of 13 years.

Boating Activity

Boaters of the region most often use the Pacific Ocean.

Some also mentioned the following as their primary waterway:

1. Colorado River
2. Big Bear Lake
3. Lake Mohave
4. Castaic Lake
5. Channel Islands Harbor
6. Lake Arrowhead
7. Lake Cachuma
8. Huntington Lake
9. Marina Del Rey
10. Mission Bay
11. L.A.-Long Beach Harbor
12. Newport Harbor
13. Lake Casitas
14. Lake Perris
15. Lake Piru
16. Dana Harbor

Facilities

Compared to the number of boaters in the region, there are relatively few facilities (and few waterways) in the South Coast Region, accounting for 13 percent of the total number of facilities statewide. The large majority of facilities are privately-owned marinas.

Six of the launch ramp facilities reported reaching capacity over 15 days per year, however we did not obtain information from some launch ramps that are known to be heavily impacted, such as Castaic and Pyramid Lakes. There are no covered berths in the region, and occupancy rates for open berths are high – almost 95 percent. One-half of the facilities that reported occupancy information were at full capacity. Like the San Francisco Region, when there are slip vacancies, they are for berths under 39 feet in length. Transients were turned away at over half of the facilities reporting, with 7 facilities turning away transients over 60 days per year.

Problems

Most of the problems in the South Coast region relate to congestion (on the waterways or launch ramps), poor water quality, and recklessness. Boaters identified relatively few problems, with 82 percent of boaters reported having no problem with their favorite waterway. Law enforcement officials identified the greatest number of problems in the region. Waterways with multiple problems identified include:

- Santa Barbara Harbor –
  - accidents
  - alcohol consumption
  - insufficient water depth
  - lack of regulations
  - poor water quality
  - problems with liveaboards
  - reckless boaters
- Marina Del Rey –
  - congestion at launch ramp
  - incidents/accidents go unreported
  - operators ignore speed limits/rules and regulations
  - poor water quality
  - reckless/excessive PWC operators
  - wakes created by speeders
- Pacific Ocean –
  - accidents
  - BUIs/DUIs
  - congestion on waterway
  - dangerous water conditions
  - lack of recreational facilities
  - reckless boaters
- Ventura Harbor –
  - high frequency of crime
  - insufficient water depth
  - parking capacity
  - poor water quality
  - reckless/excessive PWC operators
- Castaic Lake –
  - accidents
  - congestion on launch ramp
  - parking capacity
  - reckless/excessive PWC operators
- Newport Harbor –
  - accidents
  - insufficient water depth
  - poor water quality
  - unpredictable weather
- Pyramid Lake –
  - floating debris
  - insufficient water depth
  - poor water quality
  - submerged objects/obstacles
- Alamitos Bay –
  - facilities in disrepair
  - insufficient water depth
  - poor water quality
- Dana Harbor –
  - accidents
  - congestion at launch ramps.

Facility Needs

There were several facility needs identified for the South Coast region. Frequently mentioned needs include better waste pumpout, launching capacity, dock, and ramp repairs, parking capacity, and larger boat slips. The law enforcement interviews identified relatively few facility needs, with most of their recommendations directed towards increased law enforcement and safety education. Waterways with multiple facility needs include:

- L.A.-Long Beach Harbor –
  - better waste pumpout
  - boat slips
  - larger boat slips
  - mobile pumpout station
  - more capacity
  - more dry storage
  - separate area for PWCs
  - transient slips/guest docks
- Ventura Harbor –
  - better waste pumpout
  - boat slips
  - dredging
  - larger boat slips
  - launching capacity
  - parking capacity
  - PWC ramp/landing
  - separate area for PWCs
- Castaic Lake –
  - add docks
  - day use areas
  - launching capacity
  - more capacity
  - parking capacity
  - PWC ramp/landing
  - ramp repairs
- Newport Harbor –
  - better waste pumpout
  - boat slips
  - dredging
  - fuel spill prevention
  - less restrictions on dredging and maintenance
  - more capacity
  - transient slips/guest docks
- Channel Islands Harbor –
  - better waste pumpout
  - day use areas
  - larger boat slips
  - more dry storage
  - more facilities/capacity
  - ramp repairs
- Alamitos Bay –
  - add docks
  - better waste pumpout
  - dredging
  - larger boat slips
  - more capacity
- Dana Harbor –
  - add docks
  - better waste pumpout
  - boat slips
  - dock repairs
  - more dry storage

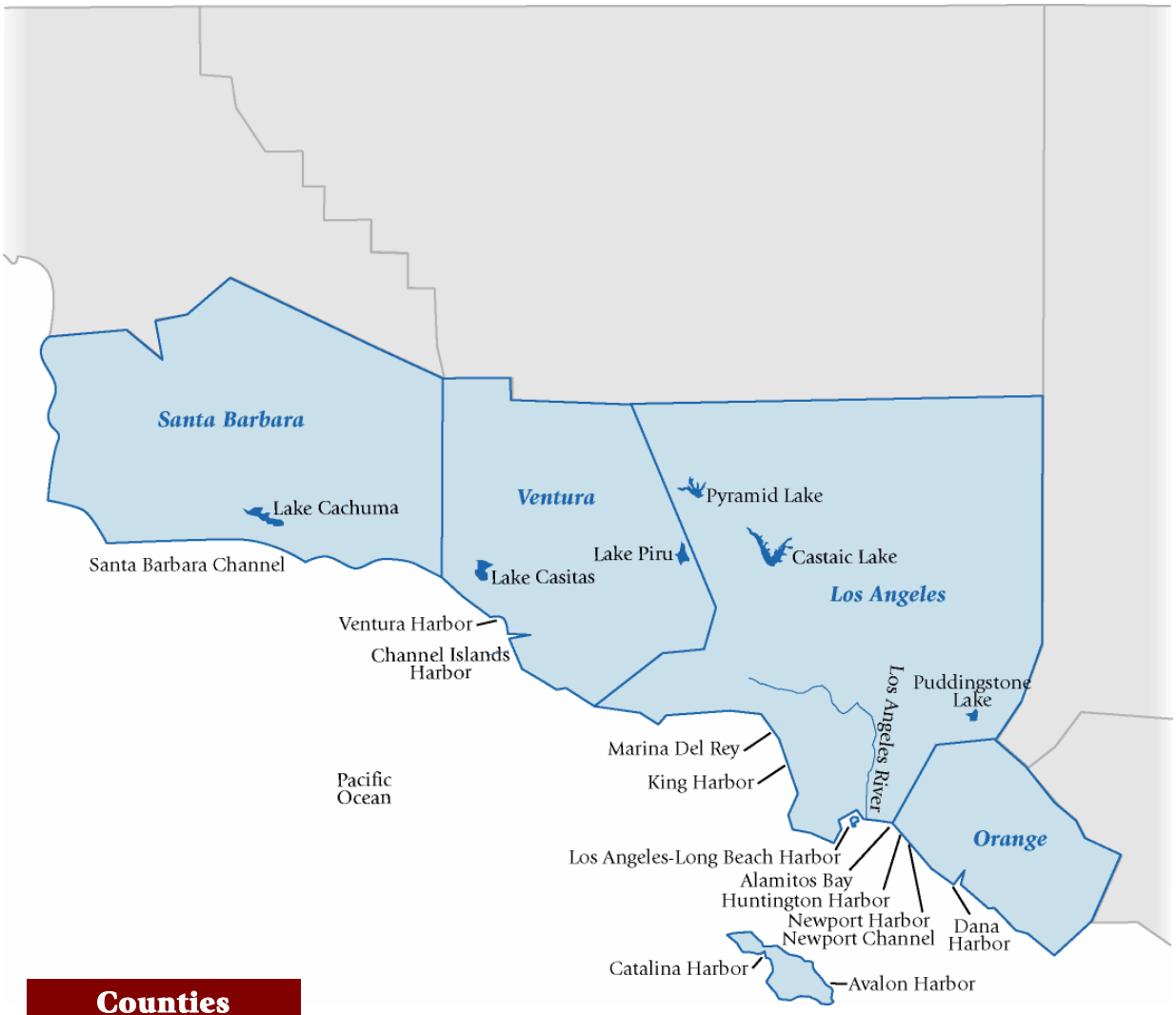
- Marina Del Rey –
  - better waste pumpout
  - boat slips
  - dock repairs
  - larger boat slips
  - transient slips/guest docks
- Santa Barbara Harbor –
  - breakwater improvements
  - dredging
  - improve water quality
  - more capacity
  - security
- Pacific Ocean –
  - better waste pumpout
  - dreding
  - more capacity
  - parking capacity
- Huntington Harbor –
  - better waste pumpout
  - courtesy docks
  - dredging
- King Harbor –
  - larger boat slips
  - launching capacity
  - mobile pumpout station,
- Pyramid Lake –
  - longer/steeper launch ramp
  - remove floating debris
  - remove submerged obstacles.

South Coast Waterways*

Waterway	Launch Ramp	Dry Storage	Wet Storage
Alamitos Bay	✓	✓	✓
Avalon Harbor		✓	✓
Castaic Lake	✓		
Channel Islands Harbor			✓
Dana Harbor	✓	✓	✓
Elizabeth Lake	✓		
Huntington Harbor	✓	✓	✓
King Harbor			✓
L.A.-Long Beach Harbor		✓	✓
Lake Cachuma	✓		✓
Lake Casitas	✓	✓	✓
Lake Piru	✓	✓	✓
Lake Pyramid	✓	✓	✓
Lido Peninsula	✓	✓	✓
Little Rock Reservoir	✓		
Marina Del Rey	✓	✓	✓
Newport Harbor	✓	✓	✓
Pacific Ocean		✓	
Puddingstone Lake	✓		✓
Santa Barbara Channel	✓		✓
Santa Fe Dam Reservoir	✓		
Two Harbors			✓
Ventura Harbor	✓	✓	✓
Zacca Lake	✓		

* Waterways in italics have boating facilities but were not included in the 646 facilities in the full BNA Survey.

South Coast Region Key Waterways

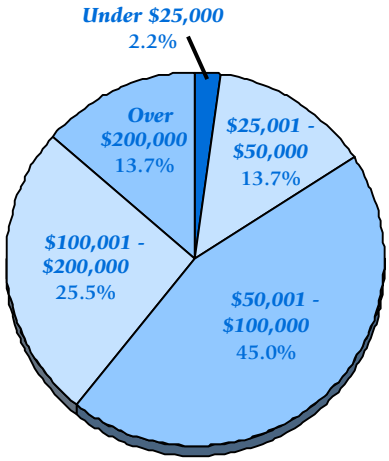


Counties

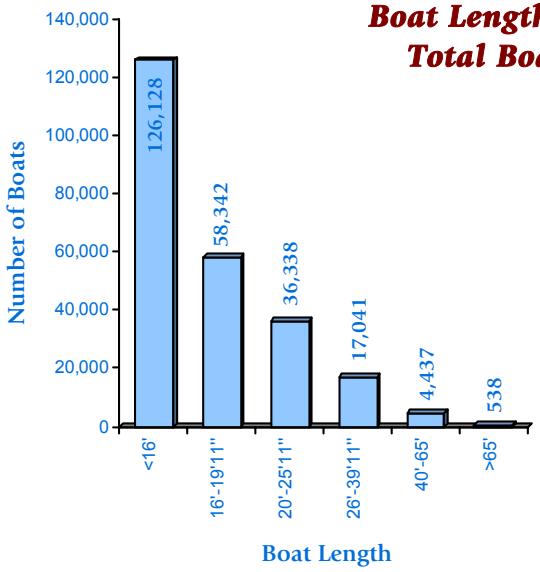
Santa Barbara
Ventura
Los Angeles
Orange

Boats and Boaters

Boater Income Levels

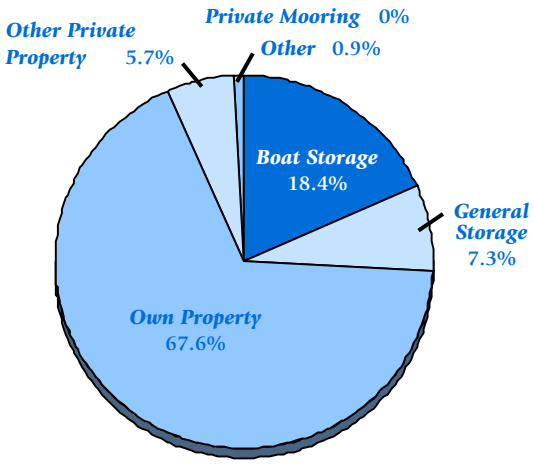


Boat Length – Total Boats



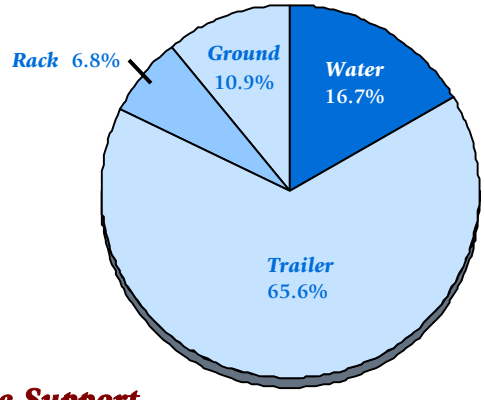
Population:	13,910,900
Total Registered/Documented Vessels:	245,380
Boats per 100 people:	1.76
Mean boater age:	53.3

Boat Storage Facilities



Mean Trips in 2000:	19.6
Mean Days used in 2000:	48

Boat Storage Support



Percent of boats unused in 2000:	14.0
Annual ownership expense:	$1,945
Mean daily trip spending:	$157

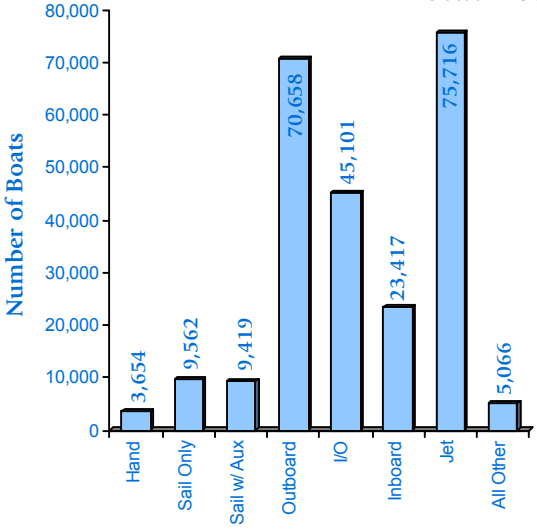
Top 10 Waterways

1. Pacific Ocean
2. Colorado River (SI)
3. Big Bear Lake (SI)
4. Lake Mohave (AZ/NV)
5. Castaic Lake
6. Channel Islands Harbor
7. Lake Arrowhead (SI)
8. Lake Cachuma
8. Huntington Lake (CV)
10. Marina Del Rey

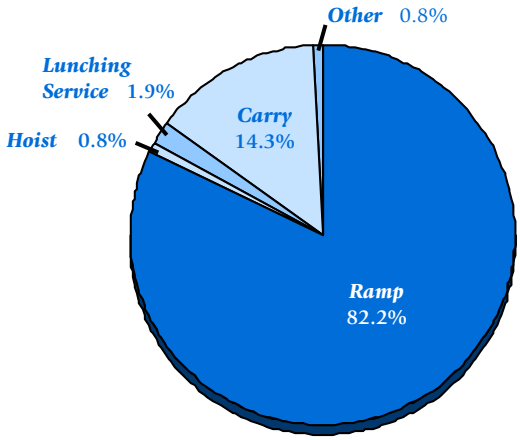
Top 5 Reasons to Use a Waterway

1. Close to home
2. Good fishing
3. Likes the place
4. Convenience
5. Good facilities

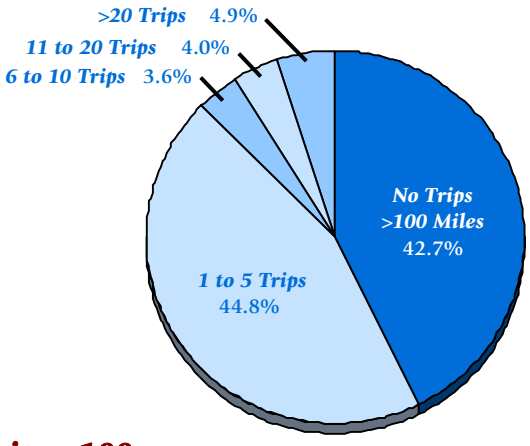
Propulsion Type – Total Boats



Launch Methods



Trips >100 Miles from Home



Facilities and Needs

Facility Count

	Total	Launch	Dry	Wet
Facilities in Survey	93	21	20	86
Facilities not in Survey	17	11	4	10
Percent Surveyed	85%	66%	83%	90%
Region as % of State	13%	6%	11%	18%

Dry Storage

Capacity	2,182
% Occupancy*	79%

Facility Type

	Number
Launch	4
Dry Storage	1
Marina	64
Marina/launch/dry	12
Marina/launch	4
Marina/dry	6
Launch/dry	1
"No facility"	1
	93

Launch Ramps

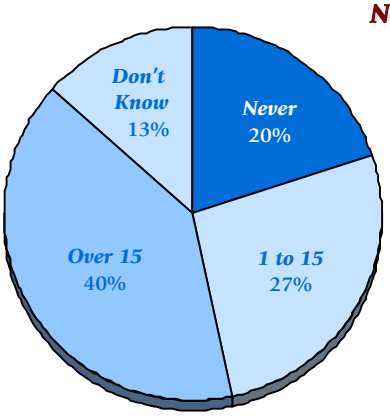
	Number
Lanes Available	79
Trailer Parking Spaces	1,391
Boarding Floats	20
Carry-down Walkways	36

Facility Ownership

	Number of Facilities
Government	22
Non-Government	71

Frequency Launch Ramp Reaches Capacity

N=15



Wet Storage

	Open Berths	Covered Berths	Moorings
Total	23,464	—	3,108
% Occupancy*	94%	—	74%

* Occupancy calculated for facilities with both capacity and occupancy information for the second half of 2000.

Monthly Rental Rates

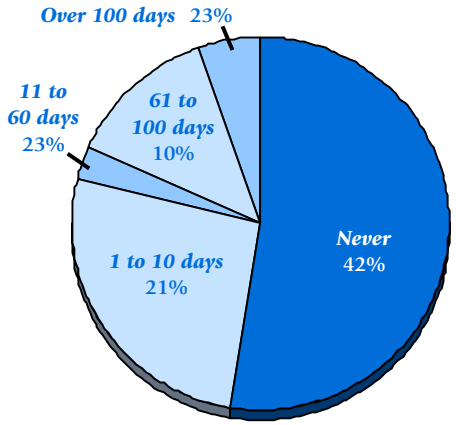
$ per space or slip

Facility Type	Average	Minimum	Maximum
Dry Storage	$121	$34	$435
Open Berths	323	50	790
Covered Berths	—	—	—
Moorings	459	55	1,080
Transient*	18	5	40

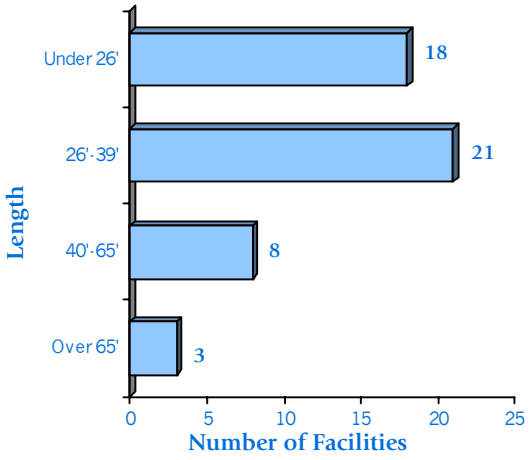
* Rate per night

Frequency Transients were Turned Away in 2000

N=48

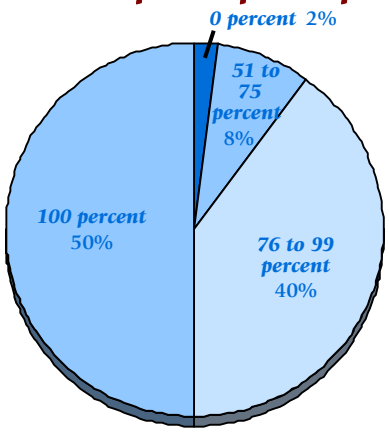


Open Slip Vacancies



Open Slip Occupancy Rates

N=52



1 to 25 percent 0%
26 to 50 percent 0%

Estimated Costs for Repairs, Replacement, Expansion, and Additions

Facility Type	Number with Needs	Number with Costs	Within 2 Years	2 to 5 Years	5 to 10 Years
Launch Ramps	13	10	$ 7,835,000	$4,734,000	$18,507,000
Dry Storage	6	5	2,555,000	1,520,000	1,400,000
Wet Storage - Waterside	42	31	28,903,000	85,815,000	44,487,000
Wet Storage - Landside	31	22	16,995,000	53,775,000	16,215,000
Total*	**92**	**68**	**$56,288,000**	**$145,844,000**	**$80,609,000**

*Facilities may be included more than once if repairs are needed at more than one facility type.

Waterway Problems*

Boater Survey	Waterways
Reckless boaters	Pacific Ocean, Santa Barbara Channel
Insufficient water depth	Newport Harbor
Overcrowding	Pacific Ocean
Unpredictable weather	Newport Harbor

Law Enforcement Survey	Waterways
Congestion on waterway	Avalon Harbor, Catalina Harbor, Los Angeles Estuary (river mouth), Pacific Ocean (Santa Monica to Topanga Canyon), Port of Los Angeles/San Pedro, Redondo Beach
High frequency of accidents	Pacific Ocean (Los Angeles County), Pacific Ocean (Santa Monica to Topanga Canyon), Port of Los Angeles/San Pedro, Puddingstone Lake, Santa Barbara (Sterns Harbor)
Congestion on launch ramp	Castaic Lake (upper), Dana Point Harbor, Marina Del Rey, Pyramid Lake (Spanish Point)
Poor water quality	Newport Harbor, Pyramid Lake, Santa Barbara Harbor, Ventura Harbor
Reckless/excessive PWC operators	Castaic Lake (PWC area), Marina Del Rey, Redondo Beach, Ventura Harbor
Insufficient water depth	Pyramid Lake (Spanish Point), Santa Fe Reservoir
Lack of recreational facilities	Pacific Ocean (Los Angeles County), Peck Park Lake
Sensitive ecosystems/unsound boater habits	Avalon Harbor, Catalina Harbor
Submerged objects/obstacles	Pyramid Lake (Spanish Point), Santa Monica Bay
Vessels too close to shore	Santa Barbara Harbor, Santa Monica Bay
Alcohol consumption	Santa Barbara Harbor (Sterns Harbor)
BUIs/DUIs	Pacific Ocean (Cabrillo Beach)
Dangerous water conditions	Pacific Ocean (Orange County Pier Area and Cliffs/Bluffs)
Floating debris	Pyramid Lake (Spanish Point)
Harbor entrance dangerous	Redondo Beach
High frequency of crime	Ventura Harbor
Incidents/accidents go unreported	Marina del Rey
Invasive species	Santa Fe Reservoir
Lack of regulations	Santa Barbara Harbor (Sterns Harbor)
Operators ignore speed limits/rules and regulations	Marina del Rey
Problem with liveaboards	Santa Barbara Harbor
Requires constant law enforcement presence	Santa Monica Bay
Wakes created by speeders	Marina del Rey

* Problems in bold were identified by more than one source.

Waterway Problems* *(continued)*

Workshop Participants	Waterways
Insufficient water depth	Alamitos Bay, Huntington Harbor, Queens Bay, Santa Barbara Harbor, Ventura Harbor
Poor water quality	Most Southern California waterways
Facilities in disrepair	Alamitos Bay, Puddingstone Lake
Parking capacity	Castaic Lake, Ventura Harbor
No body contact with water	East Valley Reservoir
Needs more public access	Channel Island Harbor
DBW 2000 Boating Safety Report	**Waterways**
High frequency of accidents	Castaic Lake, Dana Harbor, Long Beach Harbor, Newport Harbor, Santa Monica Bay

* Problems in bold were identified by more than one source.

Waterway Facility Needs*

Boater Survey	Waterways
More capacity	All top 10 waterways, Dana Harbor
Better waste pumpout	Channel Islands Harbor, Pacific Ocean,
Parking capacity	Castaic Lake, Pacific Ocean
Ramp repairs	Lake Cachuma, Channel Islands Harbor
Dredging	Pacific Ocean
Security	Santa Barbara Channel
Separate area for PWCs	L.A.-Long Beach Harbor
Facility Survey	**Waterways**
Better waste pumpout	Alamitos Bay, Dana Harbor, Huntington Harbor, L.A.-Long Beach Harbor, Marina Del Rey, Newport Harbor
Needs boat slips	Dana Harbor, L.A.-Long Beach Harbor, Marina Del Rey, Newport Harbor, Ventura Harbor
Dock repairs	Avalon Harbor, Dana Harbor, Marina Del Rey, Pudingstone Lake
Larger boat slips	Channel Islands Harbor, King Harbor, L.A.-Long Beach Harbor, Marina Del Rey
Add docks	Alamitos Bay, Dana Harbor, Elizabeth Lake
Dredging	King Harbor, Newport Harbor, Ventura Harbor
Launching capacity	King Harbor, Lake Piru, Ventura Harbor
More dry storage	Channel Islands Harbor, Dana Harbor, L.A.-Long Beach Harbor
Transient slips/guest docks	L.A.-Long Beach Harbor, Marina Del Rey, Newport Harbor
Mobile pumpout station	King Harbor, L.A.-Long Beach Harbor
Less restrictions on dredging and maintenance	Newport Harbor
Law Enforcement Survey	**Waterways**
Buoy markers	Puddingstone Lake, Redondo Beach (harbor entrance), Santa Monica Bay
Better waste pumpout	Ventura Harbor
Fuel spill prevention	Newport Harbor
Install navigational aids/maps	Santa Monica Bay
Launching capacity	Castaic Lake (upper)
Longer steeper launch ramp	Pyramid Lake
Remove floating debris	Pyramid Lake
Remove invasive species	Santa Fe Reservoir
Remove submerged obstacles	Pyramid Lake
Separate area for PWCs	Ventura Harbor

* Facility Needs in bold were identified by more than one source.

Waterway Facility Needs* *(continued)*

Workshop Participants	Waterways
Dredging	Alamitos Bay, Huntington Harbor, Queen's Bay, Santa Barbara Harbor, Ventura Harbor,
Day use areas	Castaic Lake, Channel Island Harbor, Lake Piru
Larger boat slips	Alamitos Bay, Ventura Harbor
Launching capacity	L.A. River, San Gabriel River (for small vessels)
General facility improvements	Channel Islands Harbor, Santa Barbara Harbor
Parking capacity	Castaic Lake, Ventura Harbor
PWC ramp/landing	Castaic Lake, Ventura Harbor
Better restrooms	Castaic Lake, Lake Piru
Campgrounds/improve campgrounds	Castaic Lake, Lake Piru
Dock repairs	Puddingstone Lake
Add docks	Castaic Lake
Better waste pumpout	San Pedro Harbor
Courtesy docks	Huntington Harbor
Ramp repairs	Castaic Lake
Add facilities	Channel Island Harbor
Improve water quality	Santa Barbara Harbor
Breakwater improvements	Santa Barbara Harbor
Hoist	Gaviota State Park

* Facility Needs in bold were identified by more than one source.

5. San Diego Region

Geography

The region is predominantly urban, with a population of 2.9 million and a large rural hinterland. It was historically devoted to trade and defense but recently has diversified somewhat. San Diego is the principal large city in the region. San Diego Bay and Mission Bay provide extensive protected water near population centers, and there are several small lakes in the interior part of the region.

Boats

Boat ownership in the region is normal for its population, with 68,000 boats or 2.37 per hundred people. PWCs are the most popular type of boat, followed by small and then medium outboards. The region has the state's highest percentage of sailboats at 11.9 percent. The fleet is moderately young with a median age of 14 years.

Boating Activity

Boaters of the region most often use San Diego Bay, Mission Bay, and the Colorado River.

Some also mentioned the following as their primary waterway:

1. Pacific Ocean
2. Lake San Vicente
3. Oceanside Harbor
4. Lake Powell
5. El Capitan Lake
6. Otay Lake
7. Lake Mohave
8. Lake Miramar

Facilities

There are about sixty facilities in the San Diego region, accounting for 7 percent of the statewide total. The large majority of facilities are privately owned marinas, although there are a number of public facilities (primarily launch ramps) on the inland lakes. Of the 11 launch ramps providing information, only one never reached capacity, and 4 reached capacity over 15 times per year.

Occupancy rates for open berths are higher than any other region, at 98 percent. Most of the facilities reporting were at full capacity. There are no covered berths. Transients are turned away by more facilities in this region, with 11 facilities turning away transients between 11 and 60 days in 2000, and 7 facilities turning away transients over 60 days. Only 5 of the 31 facilities reported that they never turned away transients.

Problems

There were relatively few problems identified in the San Diego region. Most commonly mentioned problems related to water quality, congestion, and reckless use, particularly PWCs. Waterways with frequently mentioned problems include:

- Oceanside Harbor –
  - accidents
  - congestion on waterway
  - fatalities
  - harbor entrance dangerous
  - poor water quality
  - ramps too steep/narrow/shallow
  - reckless PWC operators
  - submerged objects/obstacles

- Mission Bay –
  - accidents
  - buoy markers
  - congestion on waterway
  - poor water quality
  - reckless/excessive PWC operators
- San Diego Bay –
  - accidents
  - congestion on waterway
  - poor water quality
  - reckless boaters
  - theft (South Bay)
- El Capitan Lake –
  - congestion on waterway
  - poor water quality
  - reckless/excessive PWC operators
- Fiesta Bay –
  - buoy markers
  - lack of law enforcement
- Imperial Beach –
  - dangerous water conditions
  - requires constant law enforcement presence
- Lake Elsinore –
  - insufficient water depth
  - poor water quality.

Facility Needs

The facility needs identified most frequently for the San Diego region include: better waste pumpout, dredging, ramp repairs, transient slips/guest docks, boat slips, parking capacity, and general facility improvements. Waterways with multiple facility needs include:

- Mission Bay –
  - ADA compliance
  - better waste pumpout
  - boat slips
  - buoy markers
  - dredging
  - general facility improvements
  - hazardous waste disposal
  - improved signage
  - larger boat slips
  - more marinas
  - parking capacity
- San Diego Bay –
  - better waste pumpout
  - boat slips
  - dredging
  - general facility improvements
  - improve water quality
  - larger boat slips
  - more facilities
  - more marinas
  - parking capacity
  - ramp repairs
  - transient slips/guest docks
- El Capitan Lake –
  - add docks
  - courtesy docks
  - floating restrooms
  - informational kiosk
  - picnic areas
- San Vicente Reservoir –
  - better waste pumpout
  - courtesy docks
  - parking capacity
  - separate area for PWCs

- Shelter Island –
  - boat slips
  - general facility improvements
  - parking capacity
  - ramp repairs
- Lake Elsinore –
  - dock repairs
  - launching capacity
  - ramp repairs
- Oceanside Harbor –
  - better waste pumpout
  - boat slips
  - dredging (harbor entrance)
- Imperial Beach –
  - general facility improvements
  - improve/add breakwater
- Lake Wohlford –
  - ADA compliance
  - gas pump facilities.

San Diego Waterways*

Waterway	Launch Ramp	Dry Storage	Wet Storage
Agua Hediondia Lagoon	✓	✓	✓
Barrett Lake			✓
Cuyamaca Lake	✓		✓
El Capitan Lake	✓		
Hodges Reservoir	✓		
Lake Dixon	✓		
Lake Henshaw	✓	✓	✓
Lake Jennings	✓		
Lake Miramar	✓		
Lake Morena	✓		✓
Lake Poway	✓		
Lake Wohlford	✓		
Mission Bay	✓	✓	✓
Murray Reservoir	✓		
Oceanside Harbor	✓		✓
Otay Lake	✓		
Pacific Ocean		✓	✓
San Diego Bay	✓	✓	✓
San Vicente Reservoir	✓		
Santee Lakes	✓		
Shelter Island Yacht Basin			✓
Sutherland Reservoir	✓		

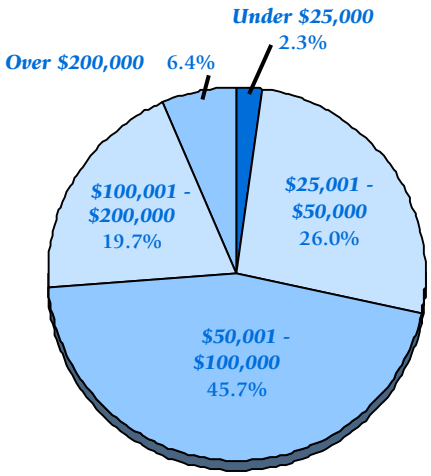
* Waterways in italics have boating facilities but were not included in the 646 facilities in the full BNA Survey.

San Diego Region Key Waterways

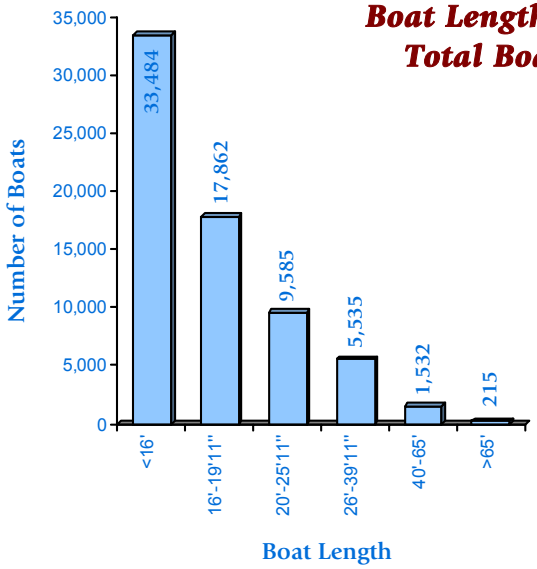
Counties
San Diego

Boats and Boaters

Boater Income Levels

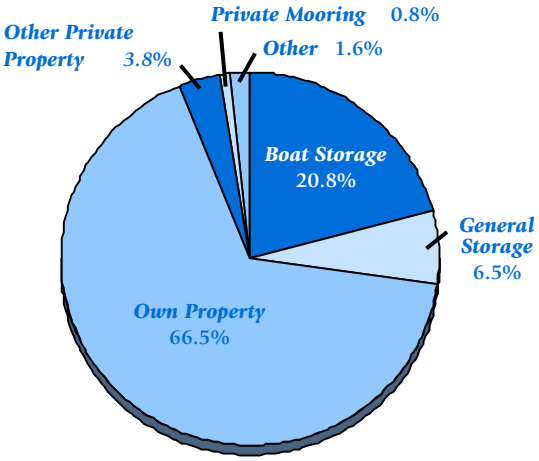


Boat Length – Total Boats



Population:	2,883,600
Total Registered/Documented Vessels:	68,231
Boats per 100 people:	2.37
Mean boater age:	53.6

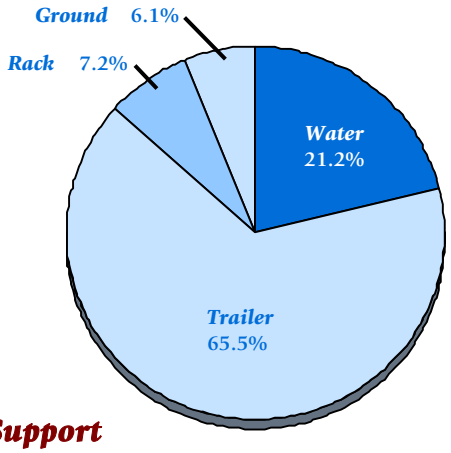
Boat Storage Facilities



Mean Trips in 2000:	22.4
Mean Days used in 2000:	42

Percent of boats unused in 2000:	18.0
Annual ownership expense:	$1,895
Mean daily trip spending:	$130

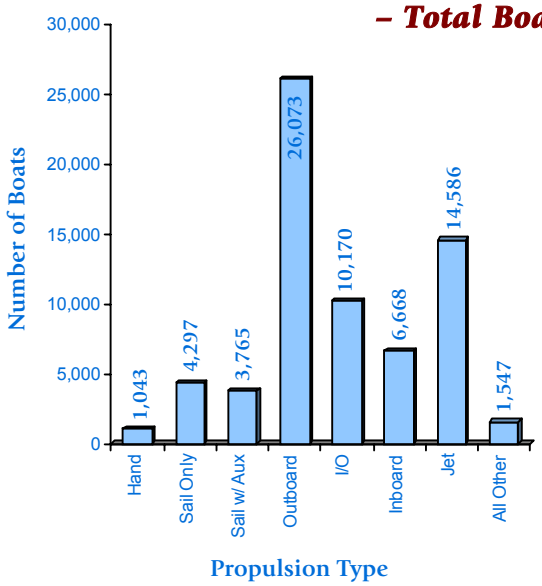
Boat Storage Support



Top 10 Waterways

1. San Diego Bay
2. Mission Bay
3. Colorado River (SI)
4. Pacific Ocean
5. Lake San Vicente
6. Oceanside Harbor
7. Lake Powell (UT)
8. El Capitan Lake
8. Otay Lake
10. Lake Mohave (AZ/NV)

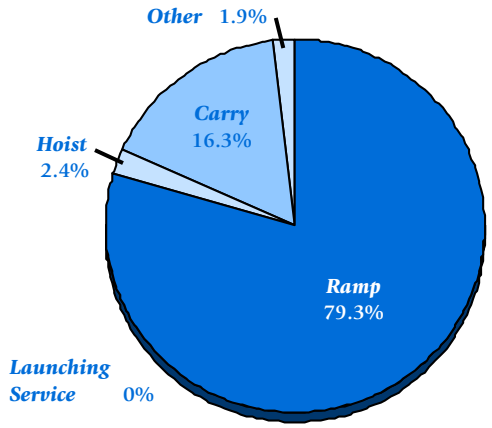
Propulsion Type – Total Boats

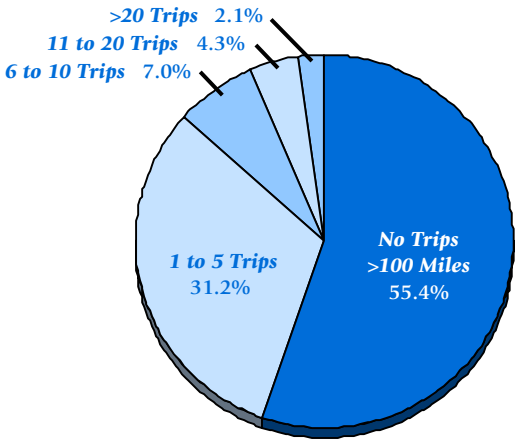


Top 5 Reasons to Use a Waterway

1. Close to home
2. Good fishing
3. Convenience
4. Pleasure
5. Likes the place

Launch Methods





Trips >100 Miles from Home

Facilities and Needs

Facility Count

	Total	Launch	Dry	Wet
Facilities in Survey	41	10	9	39
Facilities not in Survey	17	13	1	4
Percent Surveyed	71%	43%	90%	91%
Region as % of State	7%	4%	5%	8%

Dry Storage

Capacity	705
% Occupancy*	96%

Facility Type

	Number
Launch	2
Dry Storage	0
Marina	27
Marina/launch/dry	5
Marina/launch	3
Marina/dry	4
Launch/dry	0
"No facility"	0
	41

Launch Ramps

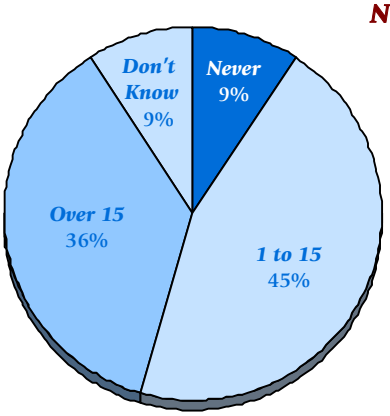
	Number
Lanes Available	24
Trailer Parking Spaces	577
Boarding Floats	15
Carry-down Walkways	5

Facility Ownership

	Number of Facilities
Government	9
Non-Government	32

Frequency Launch Ramp Reaches Capacity

N=11



Wet Storage

	Open Berths	Covered Berths	Moorings
Total	8,952	—	78
% Occupancy*	98%	—	81%

* Occupancy calculated for facilities with both capacity and occupancy information for the second half of 2000.

Monthly Rental Rates

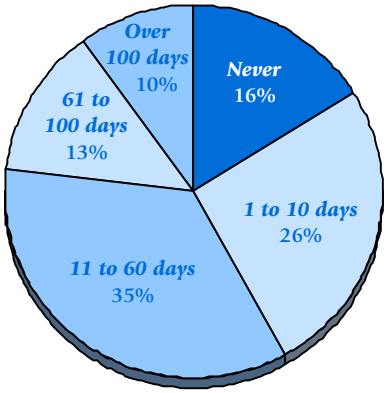
$ per space or slip

Facility Type	Average	Minimum	Maximum
Dry Storage	$63	$20	$100
Open Berths	442	100	900
Covered Berths	—	—	—
Moorings	55	40	75
Transient*	32	5	75

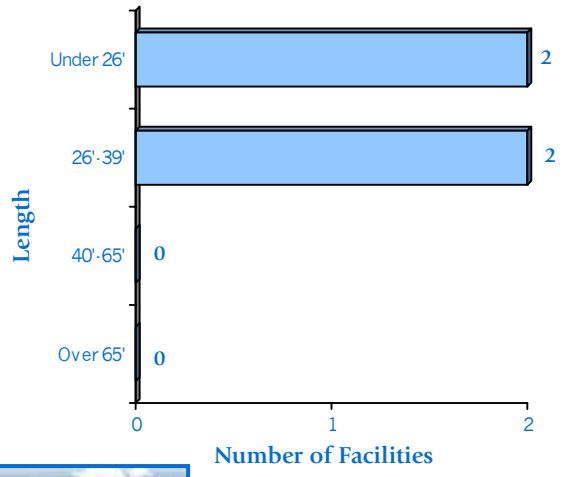
* Rate per night

Frequency Transients were Turned Away in 2000

N=31

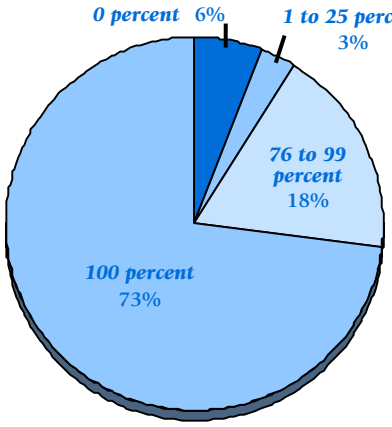


Open Slip Vacancies



Open Slip Occupancy Rates

N=33



26 to 50 percent 0%
51 to 75 percent 0%

Estimated Costs for Repairs, Replacement, Expansion, and Additions

Facility Type	Number with Needs	Number with Costs	Within 2 Years	2 to 5 Years	5 to 10 Years
Launch Ramps	7	5	$575,000	$750,000	$—
Dry Storage	6	5	2,025,000	1,095,000	1,000,000
Wet Storage - Waterside	23	14	6,465,000	7,560,000	1,225,000
Wet Storage - Landside	19	12	5,890,000	2,665,000	1,405,000
Total*	**55**	**36**	**$14,955,000**	**$12,070,000**	**$3,630,000**

*Facilities may be included more than once if repairs are needed at more than one facility type.

Waterway Problems*

Boater Survey	Waterways
Reckless PWC operators	Mission Bay, Oceanside Harbor
Overcrowding	Mission Bay
Poor water quality	Mission Bay
Reckless boaters	San Diego Bay
Law Enforcement Survey	**Waterways**
Congestion on waterway	El Capitan Lake, Mission Bay, Oceanside Harbor, San Diego Bay
Poor water quality	El Capitan Lake, Mission Bay, Oceanside Harbor, San Diego Bay
High frequency of accidents	Mission Bay, Oceanside Harbor
Reckless/excessive PWC operators	El Capitan Lake, Mission Bay
Dangerous water conditions	Imperial Beach
Harbor entrance dangerous	Oceanside Harbor
High frequency of fatalities	Oceanside Harbor
Ramps too narrow/shallow	Oceanside Harbor
Ramps too steep	Oceanside Harbor
Requires constant law enforcement presence	Imperial Beach
Submerged objects/obstacles	Oceanside Harbor
Theft	San Diego Bay (South Bay)
Workshop Participants	**Waterways**
Poor water quality	Lake Elsinore, Mission Bay, San Diego Bay
Needs better buoy markers	Fiesta Bay, Mission Bay
Insufficient water depth	Lake Elsinore, Shelter Island
Lack of law enforcement	Fiesta Bay
DBW 2000 Boating Safety Report	**Waterways**
High frequency of accidents	Mission Bay, Oceanside Harbor, San Diego Bay

* Problems in bold were identified by more than one source.

Waterway Facility Needs *

Boater Survey	Waterways
Better waste pumpout	Lake San Vicente, Mission Bay, Pacific Ocean, San Diego Bay
More capacity	Otay Lake, Lake Miramar, Lake Poway
Dredging	Mission Bay, San Diego Bay
Parking capacity	Mission Bay
Ramp repairs	San Diego Bay
Separate area for PWCs	San Vicente Reservoir
Facility Survey	**Waterways**
Needs boat slips	Mission Bay, Oceanside Harbor, Pacific Ocean, San Diego Bay, Shelter Island Yacht Basin
Parking capacity	Barrett Lake, Lake Henshaw, San Diego Bay, San Vicente Reservoir
Add facilities	Agua Hedonia Lagoon, San Diego Bay
Better waste pumpout	Mission Bay, San Diego Bay
Larger boat slips	Mission Bay, San Diego Bay
General facility improvements	Mission Bay, San Diego Bay
More marinas	Mission Bay, San Diego Bay
Transient slips/guest docks	San Diego Bay
Law Enforcement Survey	**Waterways**
Better waste pumpout	Mission Bay, Oceanside Harbor, San Diego Bay
Add docks	El Capitan Lake
Buoy markers	Mission Bay
Dredging	Oceanside Harbor (entrance)
Floating restrooms	El Capitan Lake
General facility improvements	Imperial Beach
Improve signage	Mission Bay
Improve/add breakwater	Imperial Beach
Informational kiosk	El Capitan Lake
Launching capacity	San Diego Bay (South Bay)
Picnic areas	El Capitan Lake
Workshop Participants	**Waterways**
Courtesy docks	El Capitan Lake, Mariners Basin, San Vicente Reservoir
ADA compliance	Mission Bay, Lake Wohlford
Dredging	Mission Bay, San Diego Bay
Improved signage	Fiesta Bay, Mission Bay
Ramp repairs	Lake Elsinore, Shelter Island
Better waste pumpout	Mission Bay
Dock repairs	Lake Elsinore
Gas pump facility	Lake Wohlford
General facility improvements	Shelter Island
Hazardous waste disposal	Mission Bay
Improve water quality	San Diego Bay
Launching capacity	Lake Elsinore
Parking capacity	Shelter Island
Transient slips/guest docks	Mariners Cove

* Facility Needs in bold were identified by more than one source.

6. Northern Interior Region

Geography

The region is predominantly rural, with a population of 90,000, and was historically devoted to agriculture and forestry. It contains hundreds of small to medium-sized lakes and numerous rivers.

Boats

Boat ownership in the region is very high for its small population: its 7,800 boats amount to 8.69 per hundred persons. Small and medium outboards are by far the most popular types, followed by medium-sized I/Os. The fleet is relatively old, with a median age of 21 years.

Boating Activity

Boaters of the region most often use Eagle Lake, Lake Almanor, Shasta Lake, and Lake Siskiyou.

Some also mentioned the following as their primary waterway:

1. Lake McCloud
2. Iron Gate Reservoir
3. Antelope Lake
4. Lake Shastina
5. Medicine Lake
6. Klamath River
7. Blue Lake
8. Copco Lake
9. Trinity Lake
10. Sacramento River

Facilities

The Northern Interior accounts for only 3 percent of the State's boating facilities. Of the facilities responding, one-half are government-owned. The majority of facilities in the region that were not included in the facility survey are also government-owned launch ramps. Three of the six facilities reporting indicated that their launch ramps never exceeded capacity, and one reported exceeding capacity more than 15 times per year.

Occupancy rates for open berths (there are no covered berths) is very low, at 53 percent. Facilities reported vacancies primarily for slips under 26 feet in length. Only one of three facilities reported turning away transient boaters in 2000.

Problems

The most frequently mentioned problem for waterways in this region was insufficient water depth. There were also a number of problems mentioned for specific waterways, although generally, this region had few problems. Most of the problems mentioned in the boater survey were for waterways in other regions. Waterways with multiple problems identified include:

- Eagle Lake –
  - buoy markers
  - dredging
  - insufficient parking
  - lack of ADA compliance
  - lighting
  - ramp too narrow
  - submerged obstacles
  - theft

- Mountain Meadows Reservoir –
  - insufficient parking
  - needs campgrounds
  - ramp in poor condition
  - trash
- Iron Gate Reservoir –
  - insufficient water depth
  - overcrowding

Facility Needs

There are relatively few facility needs in the Northern Interior region. The most frequently mentioned needs were more capacity, ramp repairs, improving campgrounds, and better waste pumpout. Northern Interior waterways with facility needs include:

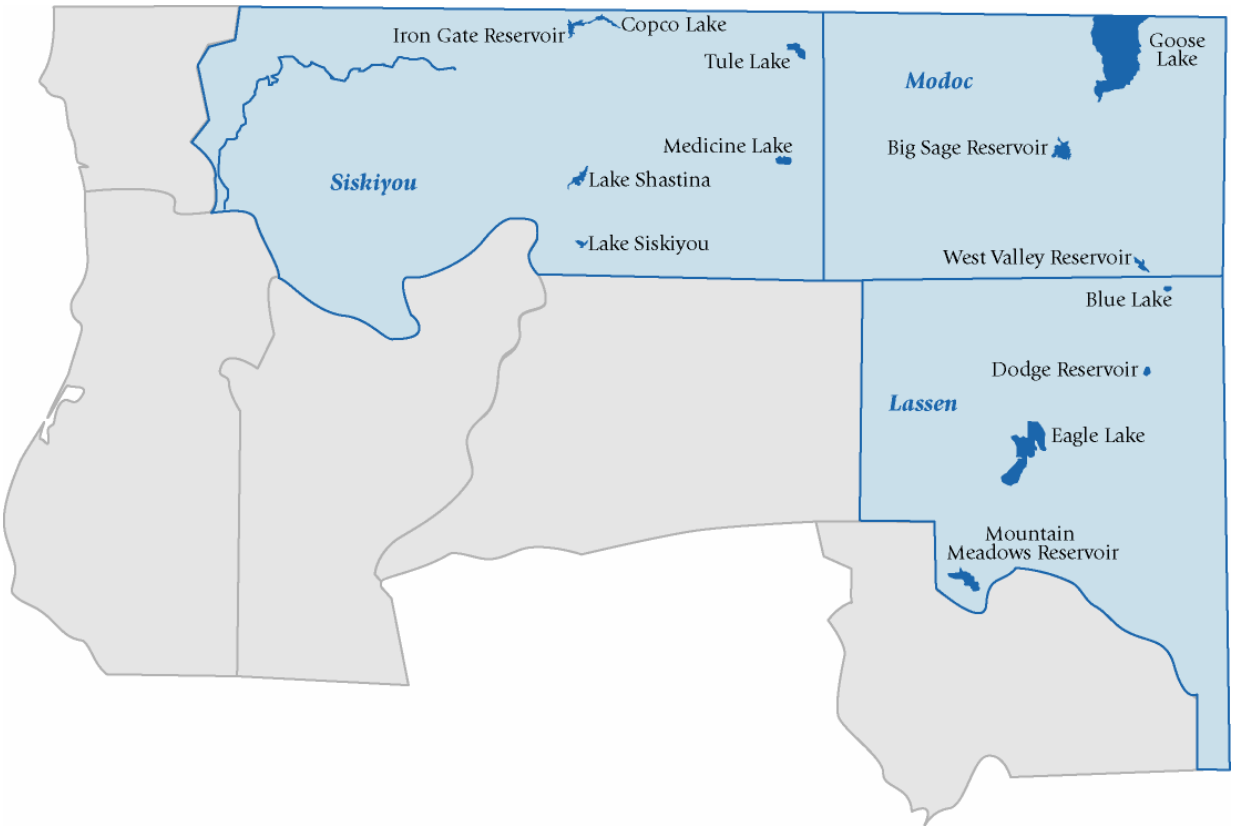
- Eagle Lake –
  - ADA compliance
  - add docks
  - better restrooms
  - better waste pumpout
  - breakwater improvements
  - dredging
  - improved signage
  - more capacity
  - remove obstacles
- Lake Shastina –
  - add docks
  - better waste pumpout
  - improve campgrounds
  - more capacity
  - parking capacity
- Iron Gate Reservoir –
  - better waste pumpout
  - more capacity
  - parking capacity
- Mountain Meadows Reservoir –
  - general facility improvements
  - more trash cans
  - ramp repairs.

Northern Interior Waterways*

Waterway	Launch Ramp	Dry Storage	Wet Storage
Antelope Lake	✓		
Big Sage Reservoir	✓		
Blue Lake	✓		
Copco Reservoir	✓		
Crater Lake	✓		
Dodge Reservoir	✓		
Dorris Reservoir	✓		
Eagle Lake	✓	✓	✓
Fee Reservoir	✓		
Iron Gate Reservoir	✓		
Janes Reservoir	✓		
Lake Shastina	✓		
Lake Siskiyou	✓	✓	✓
Medicine Lake	✓		
Mountain Meadows Reservoir	✓		
Tule Lake	✓		
West Valley Reservoir	✓		

* Waterways in italics have boating facilities but were not included in the 646 facilities in the full BNA Survey.

Northern Interior Region Key Waterways

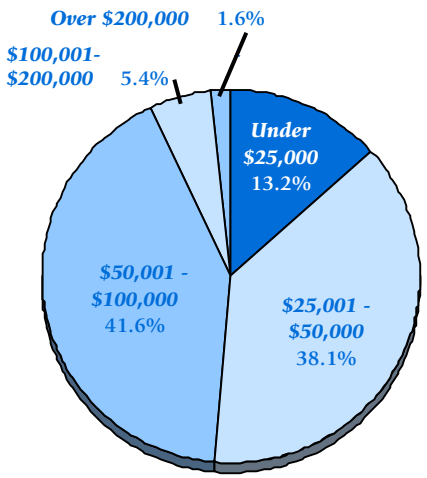


Counties

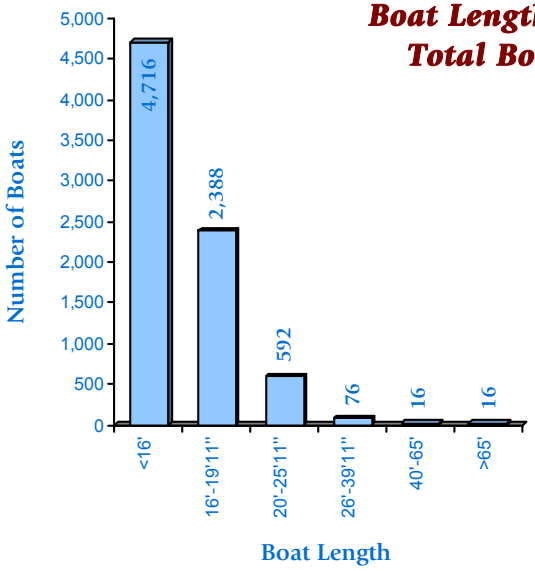
Siskiyou
Modoc
Lassen

Boats and Boaters

Boater Income Levels

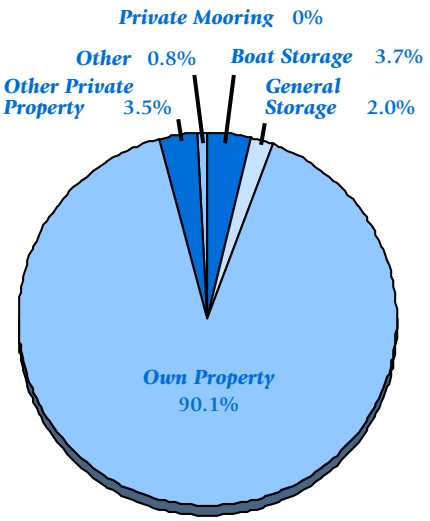


Boat Length – Total Boats



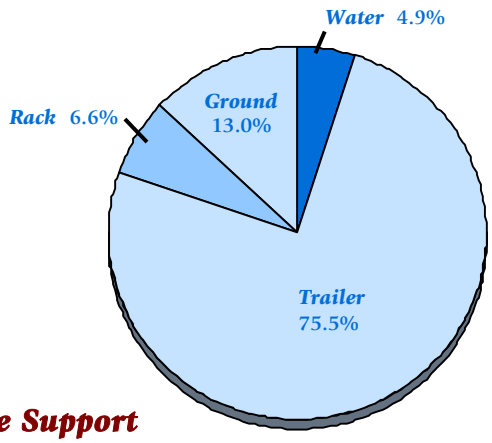
Population:	89,800
Total Registered/Documented Vessels:	7,804
Boats per 100 people:	8.7
Mean boater age:	57.1

Boat Storage Facilities

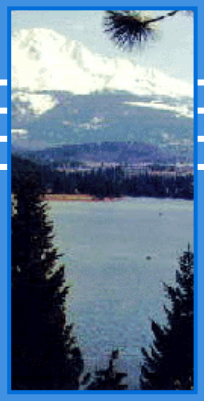


Mean Trips in 2000:	23.6
Mean Days used in 2000:	39

Boat Storage Support



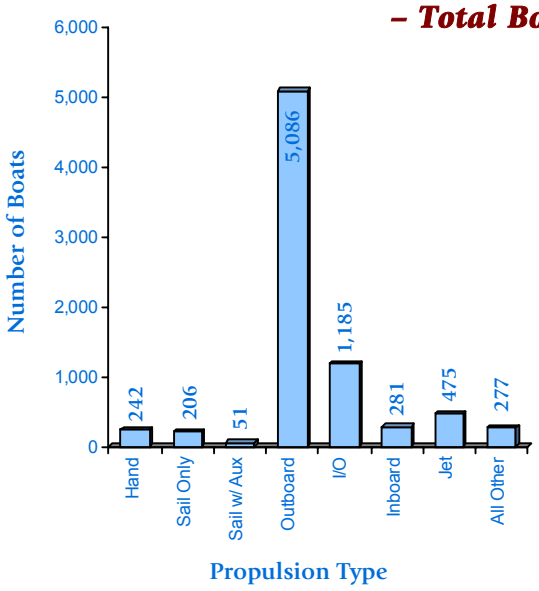
Percent of boats unused in 2000:	16.0
Annual ownership expense:	$784
Mean daily trip spending:	$93



Top 10 Waterways

1. Eagle Lake
2. Lake Almanor (SB)
3. Shasta Lake (SB)
4. Lake Siskiyou
5. Lake McCloud (SB)
6. Iron Gate Reservoir
7. Antelope Lake
8. Lake Shastina
9. Medicine Lake
9. Klamath River (NC)
9. Blue Lake

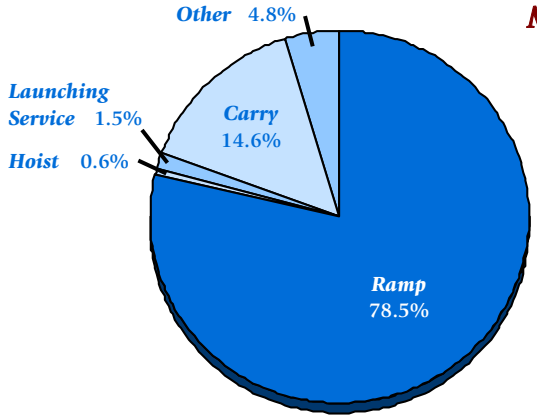
Propulsion Type – Total Boats

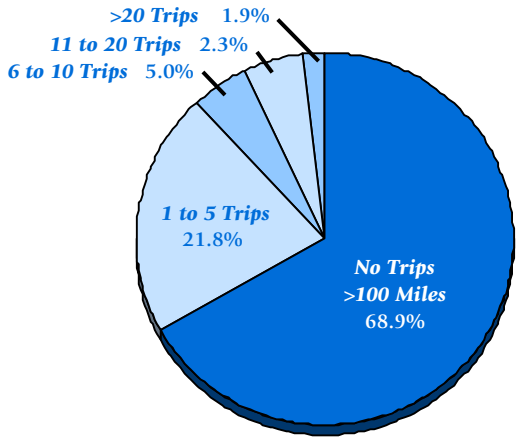


Top 5 Reasons to Use a Waterway

1. Good fishing
2. Close to home
3. Convenience
4. Near vacation home or camp
5. Likes the place

Launch Methods





Trips >100 Miles from Home

Facilities and Needs

Facility Count

	Total	Launch	Dry	Wet
Facilities in Survey	10	9	3	4
Facilities not in Survey	10	10	0	1
Percent Surveyed	50%	47%	100%	80%
Region as % of State	3%	4%	1%	1%

Facility Type

	Number
Launch	6
Dry Storage	0
Marina	1
Marina/launch/dry	3
Marina/launch	0
Marina/dry	0
Launch/dry	0
"No facility"	0
	9

Dry Storage

Capacity	150
% Occupancy*	22%

Launch Ramps

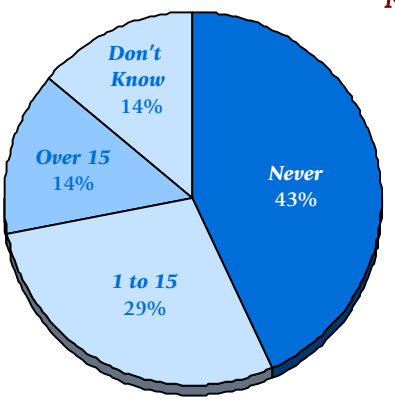
	Number
Lanes Available	16
Trailer Parking Spaces	188
Boarding Floats	49
Carry-down Walkways	3

Facility Ownership

	Number of Facilities
Government	5
Non-Government	5

Frequency Launch Ramp Reaches Capacity

N=7



Wet Storage

	Open Berths	Covered Berths	Moorings
Total	130	—	—
% Occupancy*	53%	—	—

* Occupancy calculated for facilities with both capacity and occupancy information for the second half of 2000.

Monthly Rental Rates

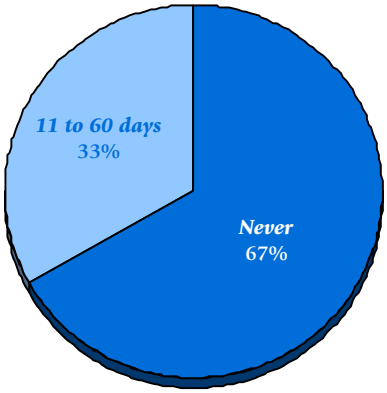
$ per space or slip

Facility Type	Average	Minimum	Maximum
Dry Storage	$38	$25	$60
Open Berths	158	125	175
Covered Berths	—	—	—
Moorings	—	—	—
Transient*	9	9	9

* Rate per night

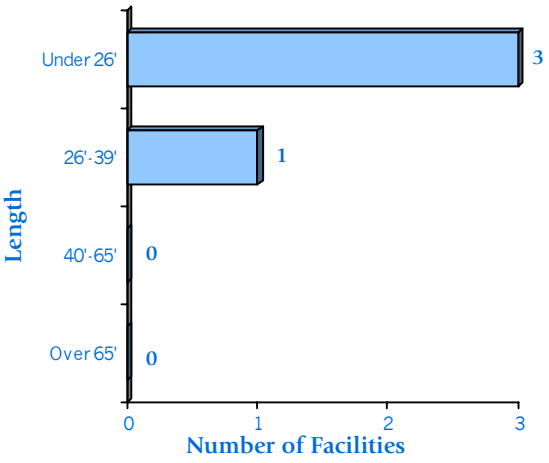
Frequency Transients were Turned Away in 2000

N=3



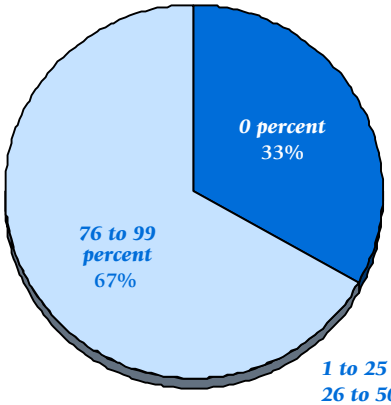
1 to 10 days	0%
61 to 100 days	0%
Over 100 days	0%

Open Slip Vacancies



Open Slip Occupancy Rates

N=3



1 to 25 percent	0%
26 to 50 percent	0%
51 to 75 percent	0%
100 percent	0%

Estimated Costs for Repairs, Replacement, Expansion, and Additions

Facility Type	Number with Needs	Number with Costs	Within 2 Years	2 to 5 Years	5 to 10 Years
Launch Ramps	5	4	$250,000	$130,000	$4,000
Dry Storage	0	0	—	—	—
Wet Storage - Waterside	2	2	70,000	70,000	—
Wet Storage - Landside	1	1	10,000	—	—
Total*	**8**	**7**	**$330,000**	**$200,000**	**$4,000**

*Facilities may be included more than once if repairs are needed at more than one facility type.

Waterway Problems*

Boater Survey	Waterways
High facility use fee	Lake Siskiyou, Tule Lake
Insufficient water depth	Dodge Reservoir, Iron Gate Reservoir
Overcrowding	Iron Gate Reservoir
Law Enforcement Survey	**Waterways**
Insufficient parking	Eagle Lake, Mountain Meadows Reservoir
Lack of/poor quality restrooms	Eagle Lake
Lighting needed	Eagle Lake
Needs campgrounds	Mountain Meadows Reservoir
Ramp in poor condition	Mountain Meadows Reservoir
Ramp too narrow/shallow	Eagle Lake
Theft	Eagle Lake
Trash	Mountain Meadows Reservoir
Workshop Participants	**Waterways**
ADA compliance	Eagle Lake
Dredging	Eagle Lake
Needs a gas pump station	Eagle Lake
Needs better buoy markers	Eagle Lake
Submerged objects/obstacle	Eagle Lake (Holiday Harbor)
DBW 2000 Boating Safety Report	**Waterways**
High frequency of accidents	None

* Problems in bold were identified by more than one source.

Waterway Facility Needs*

Boater Survey	Waterways
More capacity	All of top ten waterways
Parking capacity	Shasta Lake, Iron Gate Reservoir, Antelope Lake, Lake Shastina, Lake Almanor
Better waste pumpout	Eagle Lake, Iron Gate Reservoir, West Valley Reservoir, Lake Shastina
Ramp repairs	Trout Lake
Separate area for PWCs	Lake Siskiyou
Facility Survey	**Waterways**
Campgrounds/improve campgrounds	Fee Reservoir, Lake Shastina
Fishing docks/trails	Eagle Lake, Lake Shastina
Add docks	Eagle Lake
Launching capacity	Crater Lake
Law Enforcement Survey	**Waterways**
General facility improvements	Eagle Lake, Mountain Meadows Reservoir
More trash cans	Mountain Meadows Reservoir
Ramp repairs	Mountain Meadows Reservoir
Workshop Participants	**Waterways**
ADA compliance	Eagle Lake
Better restrooms	Eagle Lake
Breakwater improvements	Eagle Lake
Campgrounds/improve campgrounds	Eagle Lake
Courtesy docks	Eagle Lake
Dredging	Eagle Lake
Gas pump facility	Eagle Lake
Improved signage	Eagle Lake
Ramp repairs	Eagle Lake
Remove obstacles	Eagle Lake

* Facility Needs in bold were identified by more than one source.

7. Sacramento Basin Region

Geography

The region, with a population of 2.7 million, is an intensively developed agricultural area served by several medium-sized cities, including Redding, and Chico, and by the Sacramento metropolitan area. It was historically devoted to trade, government, agriculture, and defense, and recently has grown most in the service sector. It is traversed for most of its length by the Sacramento River and has dozens of small lakes and several large ones, including Lakes Shasta, Almanor, and Oroville. The region also includes Lake Tahoe and several mountain lakes.

Boats

Boat ownership in the region is 160,000 boats, or 5.96 per hundred, which is high considering its large urban population. Small outboards are the predominant type of boat, followed by medium-sized I/Os and outboards. A significant 5 percent are licensed for livery (rental). The median boat is 17 years old.

Boating Activity

The largest numbers of boat owners in the region use the Sacramento River, Folsom Lake, Lake Oroville, and Shasta Lake as their primary waterway, although many others named the following waterways:

1. Clear Lake
2. Lake Tahoe
3. Sacramento-San Joaquin Delta
4. Pacific Ocean
5. Black Butte Reservoir
6. Rollins Lake (Reservoir)
7. Bullards Bar Reservoir
8. Whiskeytown Lake
9. Lake Camanche
10. Lake Almanor
11. Jenkinson Lake

Facilities

The Sacramento Basin has more facilities than any other region, accounting for 28 percent of the statewide total. There are a large number of launch ramps and marina facilities. About 60 percent of the facilities are privately owned. Almost one-third of the launch ramp facilities reporting indicated that they reached capacity over 15 times per year, and another one-half reached capacity 1 to 15 times per year.

Occupancy rates for open berths in the region are relatively low, at 76 percent, while occupancy rates for covered berths are very high (98 percent). Over one-third of the berths in the region are covered. The large majority of vacancies are in slips under 26 feet in length. Over one-half of the facilities reporting never turned away transients in 2000, although six facilities turned away transients over 60 days.

Problems

There were a large number of problems identified by law enforcement officers in the Sacramento Basin region, and relatively few problems identified by other sources. Problems mentioned by all sources include insufficient water depth, accidents, submerged objects/obstacles, excessive speed of boats, and reckless boaters. Waterways with multiple problems identified include:

- Sacramento River –
  - accidents

- alcohol consumption
- BUIs/DUIs
- congestion on waterway
- excessive speed of boaters
- illegal non-boating activities
- insufficient parking
- insufficient water depth
- ramps too steep
- reckless boaters
- reckless PWC operators
- reckless water skiers
- security in parking area
- submerged objects/obstacles
- vessel-swimmer contact
- wakes created by speeders

■ Clear Lake –

- accidents
- congestion on waterway
- excessive speed of boats
- insufficient water depth
- invasive species
- needs public swimming beach
- rental agencies rent to inexperienced boaters
- submerged objects/obstacles

■ Shasta Lake –

- accidents
- congestion at launch ramp
- facilities in disrepair
- insufficient water depth
- reckless boaters
- reckless PWC operators
- rude/argumentative/violent boaters
- submerged objects/obstacles

■ Lake Oroville –

- congestion on launch ramps
- congestion on waterway
- distance between parking and launch areas
- insufficient parking
- insufficient water depth
- overcrowding
- submerged objects/obstacles

■ Folsom Lake –

- accidents
- alcohol consumption/drunkenness
- BUIs/DUIs
- gang activity
- insufficient water depth
- security in parking area

■ Lake Tahoe –

- congestion on waterway
- insufficient water depth
- requires constant law enforcement presence
- wakes created by speeders

■ Stony Gorge Reservoir –

- limited access
- poor campgrounds
- ramps too steep, narrow, and shallow
- rude/argumentative/violent boaters

■ Lake Almanor –

- insufficient water depth
- reckless PWC operators
- submerged objects/obstacles

■ Rollins Lake –

- congestion on waterway
- needs better buoy markers

■ Sacramento-San Joaquin Delta –

- accidents
- reckless boaters.

Facility Needs

There were a large number of facility needs identified for the Sacramento Basin region, primary from the facility survey. Facility needs that were mentioned frequently include: more capacity, launching capacity, ramp repairs, dredging, better waste pumpout, parking capacity, longer/steeper launch ramps, better restrooms, add docks, and remove invasive species. Waterways with multiple needs identified include:

- Lake Almanor –
  - ADA compliance
  - better restrooms
  - better waste pumpout
  - breakwater improvements
  - dock repairs
  - dredging
  - improve signage
  - launching capacity
  - longer/steeper launch ramp
  - maintain water level
  - more capacity
  - more public access
  - parking capacity
  - ramp repairs
  - remove obstacles/hazards
  - separate area for PWCs
- Sacramento River –
  - ADA compliance
  - add docks
  - better restrooms
  - better waste pumpout
  - buoy markers
  - dock repairs
  - dredging
  - improve signage
  - launching capacity
  - longer/steeper launch ramp
  - more capacity
  - more public access
  - parking capacity
  - ramp repairs
- Clear Lake –
  - better waste pumpout
  - dredging
  - longer/steeper launch ramp
  - maintain water level
  - more capacity
  - more public access
  - parking capacity
  - ramp repairs
  - remove invasive species
  - remove submerged obstacles
- Shasta Lake –
  - ADA compliance
  - better waste pumpout
  - dock repairs
  - launching capacity
  - longer/steeper launch ramp
  - more public access
  - needs boat slips
  - parking capacity
  - ramp repairs
  - separate area for PWCs
- Sacramento-San Joaquin Delta –
  - add docks
  - better restrooms
  - better waste pumpout
  - dock repairs
  - dredging
  - launching capacity
  - more capacity
  - parking capacity
  - remove invasive species
- Lake Oroville –
  - better waste pumpout
  - improve signage
  - launching capacity
  - longer/steeper launch ramp

- more capacity
- parking capacity
- parking lot closer to ramp
- separate area for PWCs

- Folsom Lake –
  - better waste pumpout
  - launching capacity
  - longer/steeper launch ramp
  - more capacity
  - parking capacity

- Lake Tahoe –
  - boat slips
  - launching capacity
  - more capacity
  - more public access
  - parking capacity

- Trinity Lake –
  - ADA compliance
  - better restrooms
  - launching capacity
  - longer/steeper launch ramp
  - ramp repairs.

Sacramento Basin Waterways*

Waterway	Launch Ramp	Dry Storage	Wet Storage
Antelope Lake	✓		
Black Butte Lake	✓	✓	✓
Boca Reservoir	✓		
Bucks Lake	✓		✓
Bullards Bar Reservoir	✓	✓	✓
Butt Valley Reservoir	✓		
Cache Creek	✓		
Camp Far West Lake	✓		
Clear Lake	✓	✓	✓
Collins Lake	✓	✓	✓
Donner Lake	✓		✓
East Park Reservoir	✓		
Echo Lake	✓		✓
Englebright Lake	✓		✓
Fall River Lake	✓		
Fallen Leaf Lake	✓		✓
Feather River	✓	✓	✓
Folsom Lake	✓	✓	✓
French Meadows Reservoir	✓		
Frenchman Lake	✓		
Fuller Lake	✓		
Gold Lake	✓		✓
Hell Hole Reservoir	✓		
Ice House Reservoir	✓		✓
Indian Valley Reservoir	✓		
Jackson Meadows Reservoir	✓		

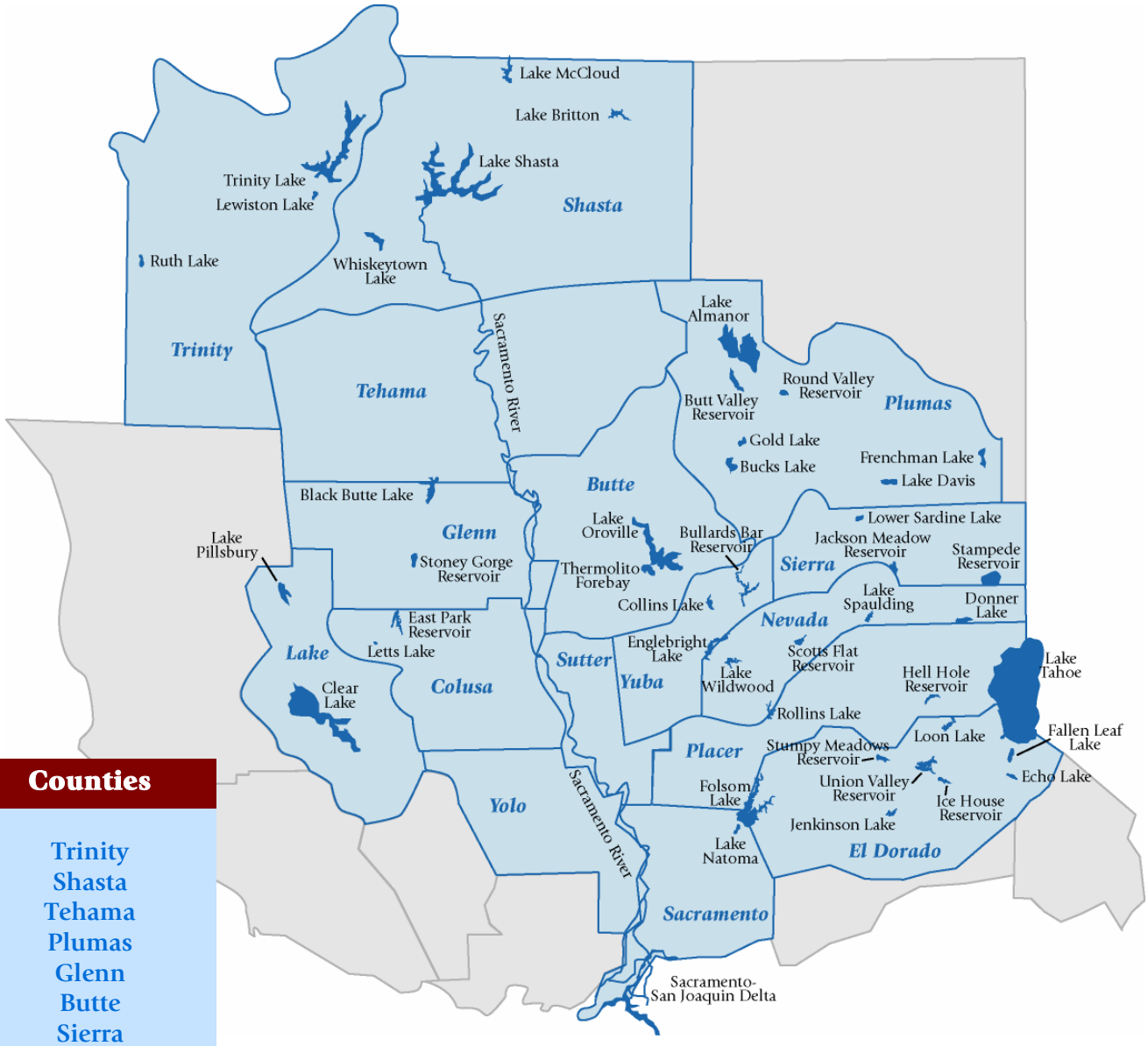
* Waterways in italics have boating facilities but were not included in the 646 facilities in the full BNA Survey.

Sacramento Basin Waterways* *(continued)*

Waterway	Launch Ramp	Dry Storage	Wet Storage
Jenkinson Lake	✓		✓
Kid Lake	✓		
Lake Almanor	✓		✓
Lake Britton	✓		
Lake Clementine/North Fork Dam	✓		
Lake Davis	✓		✓
Lake McCloud	✓		
Lake Natoma	✓	✓	✓
Lake Oroville	✓	✓	✓
Lake Pillsbury	✓	✓	✓
Lake Spaulding	✓		
Lake Tahoe	✓	✓	
Lewiston Lake	✓		
Little Grass Valley Reservoir	✓		
Loon Lake	✓		
Lower Sardine Lake	✓		
Macumber Reservoir	✓		
Morning Star Lake	✓		✓
North Battle Creek Reservoir	✓		
Packer Lake			✓
Pit River			
Prosser Reservoir	✓		
Rancho Seco Lake	✓		
Rollins Lake	✓	✓	✓
Ruth Lake	✓	✓	✓
Sacramento River	✓	✓	✓
Sacramento-San Joaquin Delta	✓	✓	✓
Salmon Lake	✓		
Sardine Lake	✓		
Scotts Flat Reservoir	✓		
Shasta Lake	✓	✓	✓
Stampede Reservoir	✓		
Stony Gorge Reservoir	✓		
Stumpy Meadows Reservoir	✓		
Sugar Pine Reservoir	✓		
Thermolito Forebay	✓		
Trinity Lake	✓	✓	✓
Union Valley Reservoir	✓		
Webber Lake	✓		
Whiskeytown Lake	✓	✓	✓
Yuba River			✓

* Waterways in italics have boating facilities but were not included in the 646 facilities in the full BNA Survey.

Sacramento Basin Region Key Waterways

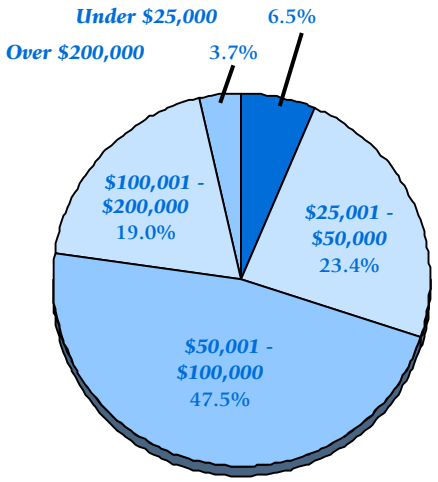


Counties

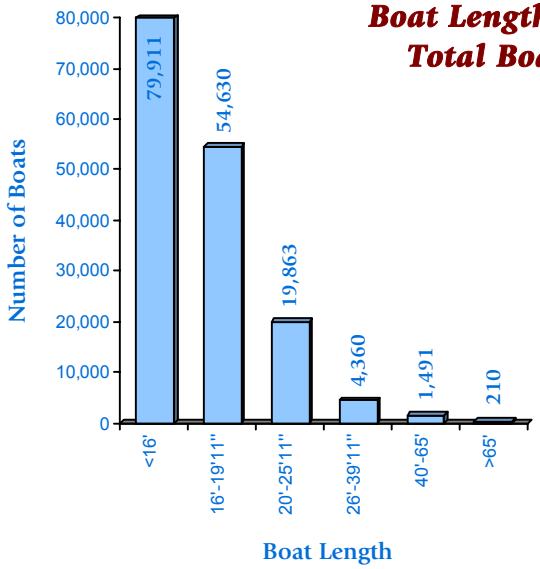
Trinity
Shasta
Tehama
Plumas
Glenn
Butte
Sierra
Lake
Colusa
Sutter
Yuba
Nevada
Placer
Yolo
Sacramento
El Dorado

Boats and Boaters

Boater Income Levels

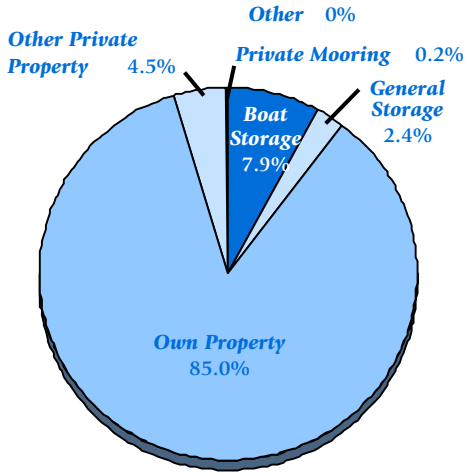


Boat Length – Total Boats



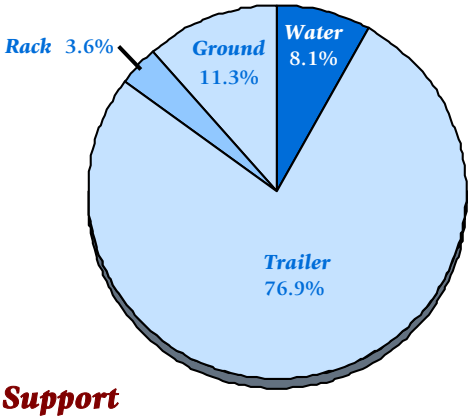
Population:	2,691,710
Total Registered/Documented Vessels:	160,490
Boats per 100 people:	5.96
Mean boater age:	54.5

Boat Storage Facilities



Mean Trips in 2000:	25.0
Mean Days used in 2000:	45

Boat Storage Support

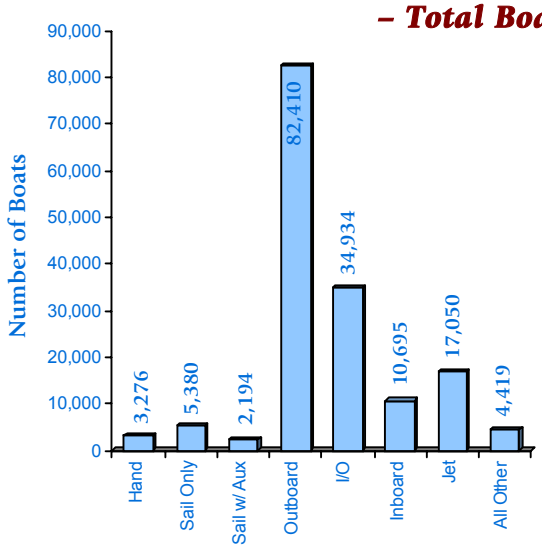


Percent of boats unused in 2000:	21.0
Annual ownership expense:	$1,152
Mean daily trip spending:	$105

Top 10 Waterways

1. Sacramento River
2. Folsom Lake
3. Lake Oroville
4. Shasta Lake
5. Clear Lake
6. Lake Tahoe
7. Sac-San Joaquin Delta
8. Pacific Ocean (SF)
8. Black Butte Reservoir
8. Rollins Lake (Reservoir)

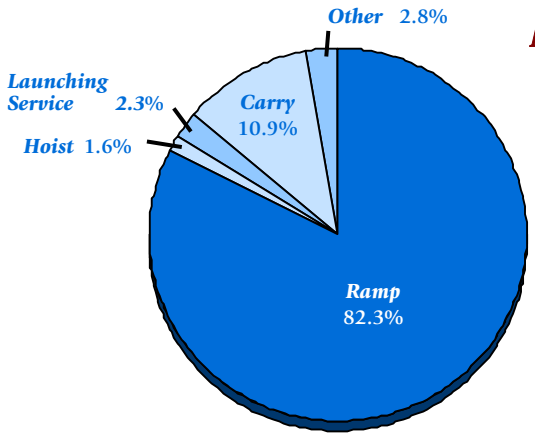
Propulsion Type – Total Boats



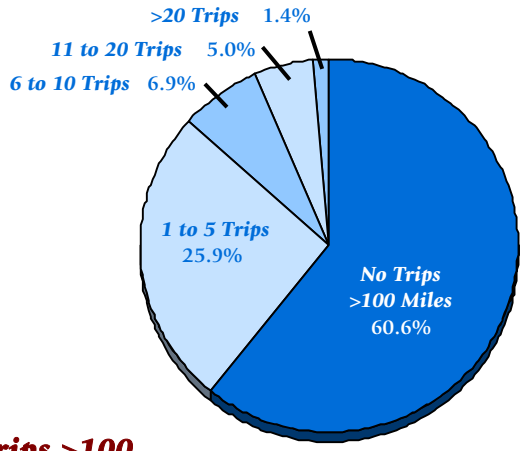
Top 5 Reasons to Use a Waterway

1. Close to home
2. Good fishing
3. Convenience
4. Likes the place
5. Large water area

Launch Methods



Trips >100 Miles from Home



Facilities and Needs

Facility Count

	Total	Launch	Dry	Wet
Facilities in Survey	183	140	48	125
Facilities not in Survey	50	43	6	15
Percent Surveyed	79%	77%	89%	89%
Region as % of State	28%	33%	24%	26%

Facility Type

	Number
Launch	55
Dry Storage	0
Marina	23
Marina/launch/dry	29
Marina/launch	55
Marina/dry	18
Launch/dry	1
"No facility"	2
	183

Dry Storage

Capacity	2,665
% Occupancy*	83%

Launch Ramps

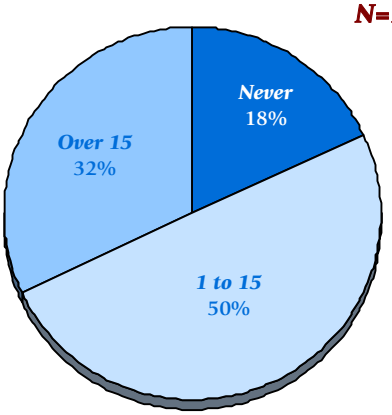
	Number
Lanes Available	260
Trailer Parking Spaces	7,943
Boarding Floats	163
Carry-down Walkways	95

Facility Ownership

	Number of Facilities
Government	72
Non-Government	111

Frequency Launch Ramp Reaches Capacity

N=115



Don't Know 0%

Wet Storage

	Open Berths	Covered Berths	Moorings
Total	7,208	3,883	1,395
% Occupancy*	76%	98%	79%

* Occupancy calculated for facilities with both capacity and occupancy information for the second half of 2000.

Monthly Rental Rates

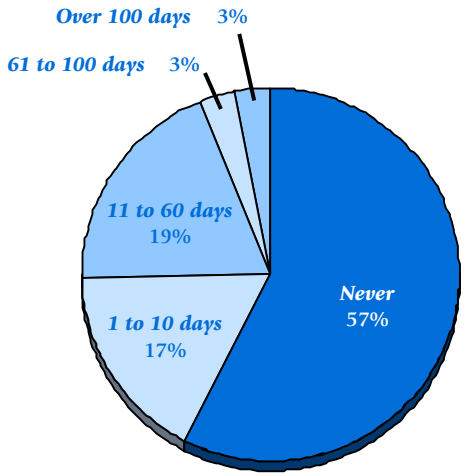
$ per space or slip

Facility Type	Average	Minimum	Maximum
Dry Storage	$120	$20	$700
Open Berths	193	40	700
Covered Berths	221	70	675
Moorings	284	88	900
Liveaboards	225	75	500
Transient*	13	5	85

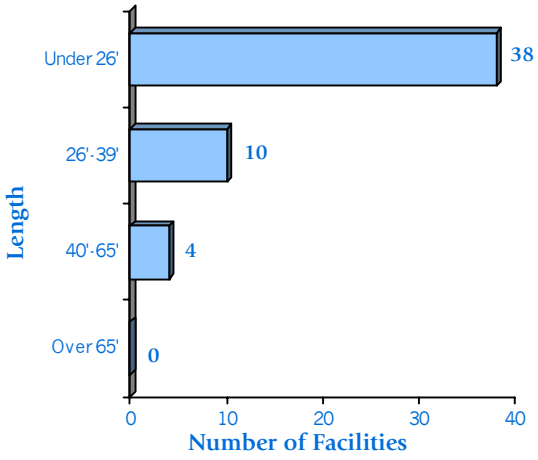
* Rate per night

Frequency Transients were Turned Away in 2000

N=88

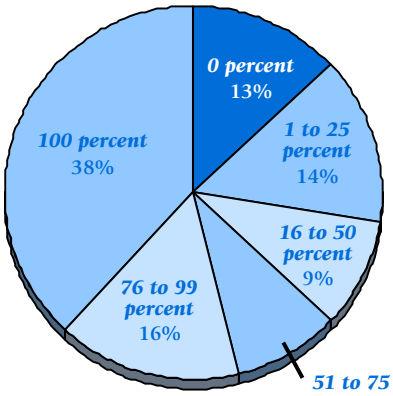


Open Slip Vacancies



Open Slip Occupancy Rates

N=76



Estimated Costs for Repairs, Replacement, Expansion, and Additions

Facility Type	Number with Needs	Number with Costs	Within 2 Years	2 to 5 Years	5 to 10 Years
Launch Ramps	81	56	$11,065,000	$4,219,500	$8,087,000
Dry Storage	17	10	800,000	902,000	3,110,000
Wet Storage - Waterside	74	56	14,991,200	5,237,000	9,100,100
Wet Storage - Landside	63	49	7,508,000	3,668,000	6,825,000
Total*	**235**	**171**	**$34,364,200**	**$14,026,500**	**$27,122,100**

*Facilities may be included more than once if repairs are needed at more than one facility type.

Waterway Problems*

Boater Survey	Waterways
Insufficient water depth	Antelope Lake, Folsom Lake, Lake Almanor, Lake Oroville, Lake Tahoe, Sacramento River, Shasta Lake
Reckless PWC operators	Lake Almanor, Sacramento River, Shasta Lake
High Facility use fees	Lake McCloud, Shasta Lake
Overcrowding	Frenchman Lake, Lake Oroville
Reckless boaters	Sac-San Joaquin Delta, Shasta Lake
Security in parking area	Folsom Lake, Sacramento River
Law Enforcement Survey	**Waterways**
Congestion on waterway	Lake Oroville, East Park Reservoir, Sacramento River, Lake Tahoe (Emerald Bay), Stoney Gorge Reservoir, Clear Lake, Boca Lake, Rollins Lake, Stampede Lake, Bullards Bar Reservoir
High frequency of accidents/collisions	Boca Lake, Clear Lake, Folsom Lake, Sacramento River, Shasta Lake
Alcohol consumption/drunkenness	American River (Negro Bar), Folsom Lake, Putah and Cache Creeks, Sacramento River
Congestion at launch ramp	Camp Far West Reservoir, Donner Lake, Lake Oroville, Shasta Lake
Submerged objects/obstacles	Clear Lake, Lake Oroville, Sacramento River, Shasta Lake
Insufficient parking	Lake Oroville, Putah and Cache Creeks, Sacramento River (Irvine Finch State Park to Pine Creek),
BUIs/DUIs	Folsom Lake, Sacramento River, Shasta Lake
High speeds at night	Camp Far West Reservoir, Clear Lake
Inexperienced boaters	Sacramento River, Shasta Lake
Insufficient water depth	Lake Oroville, Shasta Lake
More public access	Black Butte Lake, Donner Lake
Ramps too steep	Stoney Gorge Reservoir, Sacramento River
Rowdy partiers	East Park Reservoir, Folsom Lake
Rude/argumentative/violent boaters	Sacramento River, Stoney Gorge Reservoir
Wakes created by speeders	Lake Tahoe (Emerald Bay), Sacramento River
Boaters not wearing life jackets	Putah and Cache Creeks
Distance between parking and launch area	Lake Oroville
Dock/ramp damaged	Sacramento River
Excessive noise	Camp Far West Reservoir
Excessive speed of boats	Sacramento River
Gang activity	Folsom Lake
High frequency of fatalities	Sacramento River (Freeport area)
High frequency of search and rescue missions	Putah and Cache Creeks
Illegal non-boating activities	Sacramento River
Lack of recreational facilities	East Park Reservoir
Limited access	Stoney Gorge Reservoir
Needs better buoy markers	Rollins Lake

* Problems in bold were identified by more than one source.

Waterway Problems* *(continued)*

Law Enforcement Survey *(continued)*	Waterways
Needs public swimming beach	Clear Lake (Mike Thompson Harbor)
No launch ramp	East Park Reservoir
Operators ignore speed limits/rules/regulations	Boca Lake
Poor campgrounds	Stoney Gorge Reservoir
Ramps too narrow/shallow	Stoney Gorge Reservoir
Reckless boaters	Sacramento River
Reckless/excessive PWC operators	Sacramento River
Reckless/excessive water skiers	Sacramento River
Rental agencies rent to inexperienced operators	Clear Lake
Requires constant law enforcement presence	Lake Tahoe (Emerald Bay)
Substandard boating equipment	Sacramento River
Vessel swimmer contact	Sacramento River
Workshop Participants	**Waterways**
Facilities in disrepair	Keswick Reservoir, Shasta Lake, Trinity Lake
Insufficient water depth	Clear Lake, Lake Almanor
Excessive speed of boats	Clear Lake
Invasive species	Clear Lake
Submerged objects/obstacle	Lake Almanor
DBW 2000 Boating Safety Report	**Waterways**
High frequency of accidents	Shasta Lake, Sac-San Joaquin Delta, Folsom Lake

* Problems in bold were identified by more than one source.

Waterway Facility Needs*

Boater Survey	Waterways
More capacity	All of top 10 waterways
Better waste pumpout	Folsom Lake, Frenchman Lake, Lake Almanor, Lake McCloud, Lake Oroville, Shasta Lake, Sacramento River,
Ramp repairs	Black Butte Reservoir, Clear Lake, Sacramento River, Lake Oroville
Parking capacity	Lake Tahoe, Sacramento River, Shasta Lake
Separate area for PWCs	Folsom Lake, Lake Almanor, Lake Oroville, Shasta Lake
Campgrounds	Ruth Lake Reservoir
Facility Survey	**Waterways**
Parking capacity	Boca Reservoir, Bucks Lake, Clear Lake, Collins Lake, Donner Lake, Englebright Lake, Folsom Lake, Frenchman Lake, Gold Lake, Lake Clementine, Lake Oroville, Lake Tahoe, Rollins Lake, Sacramento River, Sac-San Joaquin Delta, Shasta Lake
Launching capacity	Cache Creek, Collins Lake, Folsom Lake, East Park Reservoir, Jackson Meadows Reservoir, Lake Almanor, Lake Tahoe, Lewiston Lake, Pit River, Sacramento River, Sac-San Joaquin Delta, Shasta Lake
Longer/steeper launch ramp	Clear Lake, Folsom Lake, French Meadows Reservoir, Lake Almanor, Lake Davis, Lake Oroville, Lake Tahoe, Sacramento River, Shasta Lake, Trinity Lake, Union Valley Reservoir
Better restrooms	Butt Valley Reservoir, Collins Lake, Fuller Lake, Lake Almanor, Lake Tahoe, Sacramento River, Sac-San Joaquin Delta, Trinity Lake
Dock repairs	Black Butte Lake, Jackson Meadows Reservoir, Lake Almanor, Sac-San Joaquin Delta, Sacramento River, Shasta Lake, Trinity Lake
ADA compliance	Englebright Lake, Ice House Reservoir, Lake Almanor, Rollins Lake, Shasta Lake, Union Valley Reservoir
Add docks	Ice House Reservoir, Sacramento River, Stumpy Meadows Reservoir, Union Valley Reservoir, Whiskeytown Lake, Sac-San Joaquin Delta
Ramp repairs	Black Butte Lake, Jackson Meadows Reservoir, Lake Almanor, Sacramento River, Shasta Lake, Trinity Lake
Maintain water level	Bucks Lake, Clear Lake, Frenchman Lake, Indian Valley Reservoir, Lake Almanor
More public access	Clear Lake, Lake Almanor, Lake Tahoe, Pit River, Sacramento River
Needs boat slips	Folsom Lake, Lake Almanor, Lake Pillsbury, Lake Tahoe, Shasta Lake
Better waste pumpout	Clear Lake, Sacramento River, Sac-San Joaquin Delta, Shasta Lake
Dredging	Clear Lake, Ruth Lake, Sacramento River, Sac-San Joaquin Delta
Remove invasive species	Clear Lake, Sac-San Joaquin Delta

* Facility Needs in bold were identified by more than one source.

Waterway Facility Needs* *(continued)*

Law Enforcement Survey	Waterways
Launching capacity	Donner Lake, Lake Oroville, Sacramento River (Discovery Park), Stoney Gorge Reservoir,
Improve signage	Clear Lake, Lake Oroville, Sacramento River
Access road improved/needed	Folsom Lake (Rattle Snake Bar), Stoney Gorge Reservoir
Add docks	Camp Far West Reservoir, Sacramento River (Discovery Park)
Buoy markers	Rollins Lake, Sacramento River
Add facilities	East Park Reservoir
Add/better restrooms	Stoney Gorge Reservoir
Dock repairs	Sacramento River
Dredging	Sacramento River
General facility improvements	American River (Negro Bar)
Longer/steeper launch ramp	Lake Oroville
Parking capacity	Lake Oroville
Parking lot closer to ramp	Lake Oroville
Ramp Repairs	Sacramento River
Remove submerged obstacles	Clear Lake
User fees should be charged	East Park Reservoir
Workshop Participants	**Waterways**
Ramp repairs	Keswick Reservoir, Shasta Lake, Sacramento River (Jelly's Ferry Bridge), Trinity Lake
Dredging	Clear Lake, Lake Almanor
Low-water launch	Trinity Lake, Shasta Lake
Maintain water level	Clear Lake, Lake Almanor
ADA compliance	Trinity Lake
Better waste pumpout	Shasta Lake
Campgrounds/improve campgrounds	Lake Almanor
Improve signage	Lake Almanor
Launching capacity	Trinity Lake
No wake zone	Clear Lake
Non-motorized craft launch	Lewiston Lake
Remove invasive species	Clear Lake
Remove obstacles, hazards	Lake Almanor

* Facility Needs in bold were identified by more than one source.

8. Central Valley Region

Geography

Like the Sacramento Basin, but with a larger population of 3.6 million, the Central Valley Region is an intensively developed agricultural area served by several medium-sized cities, including Stockton, Modesto, Fresno, and Bakersfield. It was historically devoted to agriculture, petroleum, and defense, and recently has grown in the service sector. It is crossed at its north end by the San Joaquin River and has many lakes and reservoirs.

Boats

The region's 118,000 boats constitute 3.28 per hundred people, a much lower rate than the Sacramento Basin, but higher than the State overall. Small outboards and I/Os are popular, but not PWCs.

Boating Activity

Boaters of the region are not strongly concentrated on any one waterway. The following are generally the most popular:

1. Sacramento-San Joaquin Delta
2. Lake McClure
3. Pine Flat Lake
4. Don Pedro Lake
5. Millerton Lake
6. Huntington Lake
7. New Melones Reservoir
8. San Joaquin River
9. Lake Isabella
10. Pacific Ocean
11. Success Lake
12. Bass Lake
13. Shaver Lake
14. Kaweah Reservoir
15. Lake Tulloch
16. Modesto Reservoir

Facilities

Facilities in the Central Valley region account for 12 percent of the statewide total. Over one-half of the facilities are privately owned, although there are a large number of lakes with publicly owned launch ramps. Pressure on launch ramps is relatively high, with one-quarter of those reporting that they reached capacity over 15 times per year.

Unlike the Sacramento Basin, occupancy rates are lower in covered berths (79 percent) than open berths (89 percent). About one-third of the total berths are covered. The majority of open slip vacancies are in the under 26 foot range. About two-thirds of the facilities never turned away transients in 2000.

Problems

There were a large number of problems identified in Central Valley waterways, particularly through the law enforcement interviews. Problems mentioned frequently included insufficient water depth, invasive species, reckless boaters, congestion, accidents, and vandalism. Two waterways, the Sacramento-San Joaquin Delta and Pine Flat Lake account for 25 percent of the problems voiced by boat owners about their primary waterway. Some problems cited for key waterways in the region include:

- Pine Flat Lake –
  - BUIs/DUIs
  - excessive/rude law enforcement
  - inexperienced boaters
  - insufficient parking
  - insufficient water depth
  - ramp in poor condition
  - unreported accidents
  - vandalism.
- Sacramento-San Joaquin Delta (Problems mentioned for specific areas within the Delta are included in the table on page 1-100) –
  - accidents
  - BUIs/DUIs
  - congestion
  - insufficient water depth
  - invasive species
  - reckless boaters
  - reckless PWC operators
  - vandalism
- Kings River –
  - ramp in poor condition
  - reckless boaters
  - reckless PWC operators
  - rental agencies renting to inexperienced boaters
  - submerged obstacles
  - vandalism
- Don Pedro Lake –
  - accidents
  - BUIs/DUIs
  - congestion on waterway
  - lack of pumpout facilities
  - reckless PWC operators
- Lake Tulloch –
  - BUIs/DUIs
  - congestion
  - reckless PWC operators
  - reckless water skiers
  - wakes created by speeders
- New Melones Reservoir –
  - high frequency of search and rescue missions
  - insufficient parking
  - lack of recreational facilities
- San Joaquin River –
  - invasive species
  - reckless boaters
  - reckless PWC operators
- Lake McClure –
  - accidents
  - BUIs/DUIs
- Merced River –
  - accidents
  - insufficient water depth.

Facility Needs

Most frequently mentioned facility needs in this region include parking capacity, launching capacity, ramp and dock repairs, better waste pumpout, and better restrooms. Specific needs were identified for many waterways in the region. Waterways with several needs are identified below.

- Sacramento-San Joaquin Delta –
  - access road improvements
  - add docks
  - better restrooms
  - better waste pumpout
  - dock repairs
  - launching capacity
  - more dry storage
  - parking capacity
  - ramp repairs
  - remove invasive species
- Don Pedro Lake –
  - better restrooms
  - better waste pumpout
  - day use areas
  - launching capacity
  - ramp repairs
  - separate area for PWCs
- Kings River –
  - improve signage
  - more capacity
  - ramp repairs
  - remove invasive species
  - remove submerged obstacles
- Kaweah Reservoir –
  - campgrounds
  - maintain water level
  - more capacity
  - parking capacity
- New Melones Reservoir –
  - better restrooms
  - campgrounds
  - launching capacity
  - parking capacity
- Pine Flat Lake –
  - better waste pumpout
  - campgrounds
  - launching capacity
  - parking capacity
- Lake McClure –
  - boat storage facilities
  - improve/add breakwater
  - more capacity
- San Joaquin River –
  - better facilities
  - more capacity
  - parking capacity
- Turlock Lake –
  - campgrounds
  - day use areas
  - ramp repairs

Central Valley Waterways*

Waterway	Launch Ramp	Dry Storage	Wet Storage
Avocado Lake	✓		
Bass Lake	✓		✓
Bear River Reservoir	✓		✓
Beardsley Reservoir	✓		
Berenda Reservoir	✓		
Brite Valley Lake	✓		
Cherry Lake	✓		
Courtright Reservoir	✓		
Don Pedro Lake	✓	✓	✓
Eastman Lake	✓		
Florence Lake	✓	✓	
Fresno Slough	✓		✓
Hensley Lake	✓		
Hume Lake			✓
Huntington Lake	✓		✓
Kaweah Reservoir	✓		✓
Kerckhoff Reservoir	✓		
Kings River	✓		✓
Lake Amador	✓	✓	
Lake Buena Vista			✓
Lake Camanche	✓	✓	✓
Lake Isabella			✓
Lake McClure	✓	✓	✓
Lake McSwain	✓		✓
Lake Ming	✓		
Lake Pardee	✓	✓	✓
Lake Thomas A. Edison	✓		✓
Lake Tulloch	✓		✓
Lake Woollomes	✓		
Lake Yosemite			✓
Lodi Lake	✓		
Los Banos Creek Reservoir	✓		
Lyon Reservoir	✓		
Mammoth Pool Reservoir	✓		
Millerton Lake	✓		
Modesto Reservoir			✓
New Hogan Lake	✓		
New Melones Reservoir	✓		✓
New Spicer Meadow Reservoir	✓		
O'Neill Forebay	✓		

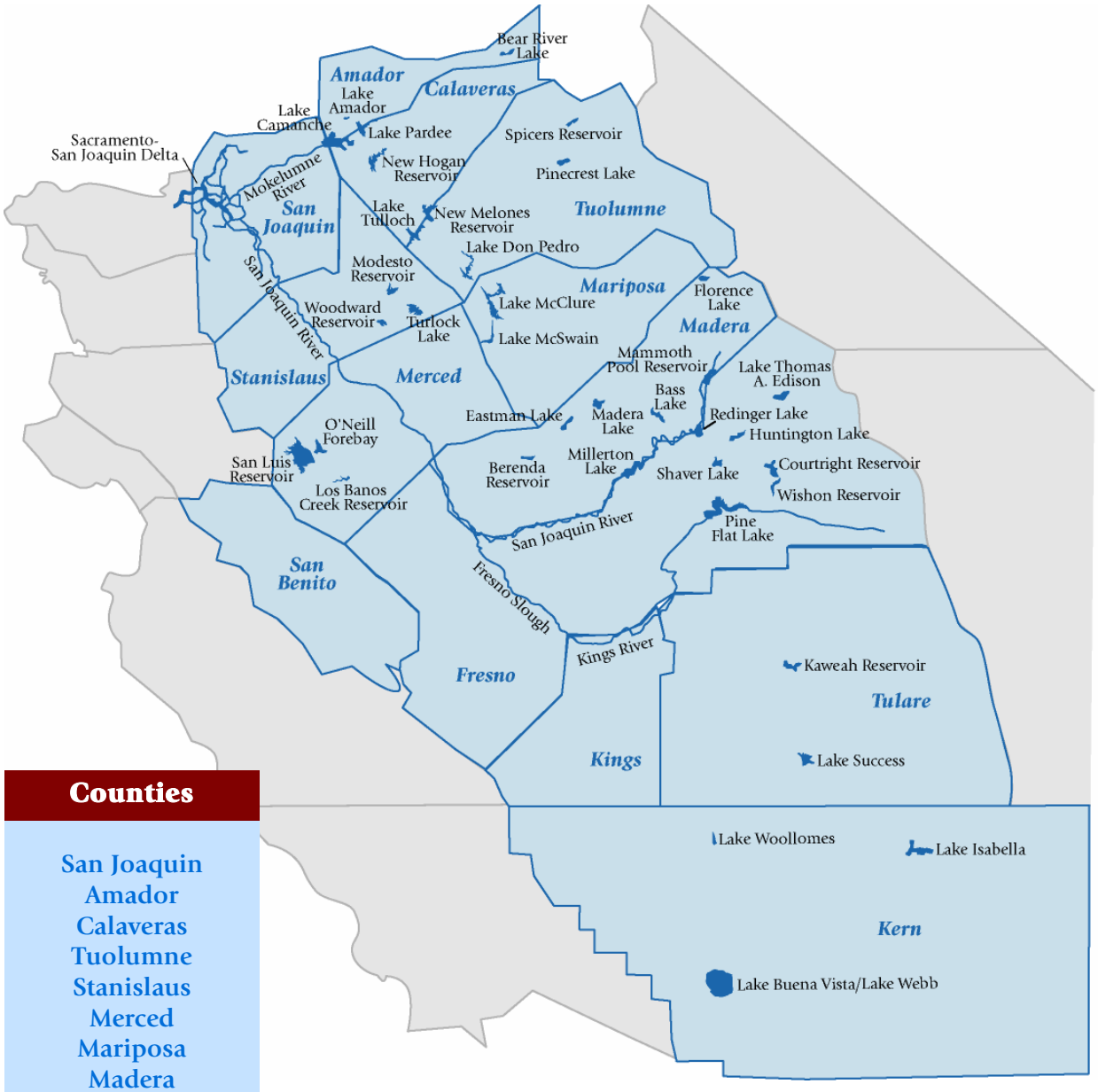
* Waterways in italics have boating facilities but were not included in the 646 facilities in the full BNA Survey.

Central Valley Waterways* *(continued)*

Waterway	Launch Ramp	Dry Storage	Wet Storage
Pine Flat Lake	✓		✓
Pinecrest Lake	✓		✓
Redinger Lake	✓		
Sacramento-San Joaquin Delta	✓	✓	✓
Salt Spring Reservoir	✓	✓	
San Joaquin River			
San Luis Reservoir	✓		
Shaver Lake			✓
Success Lake	✓		✓
Turlock Lake	✓		
Wishon Reservoir	✓	✓	✓
Woodward Reservoir	✓	✓	✓

* Waterways in italics have boating facilities but were not included in the 646 facilities in the full BNA Survey.

Central Valley Region Key Waterways

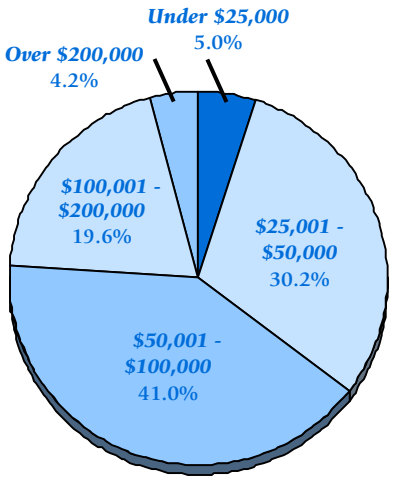


Counties

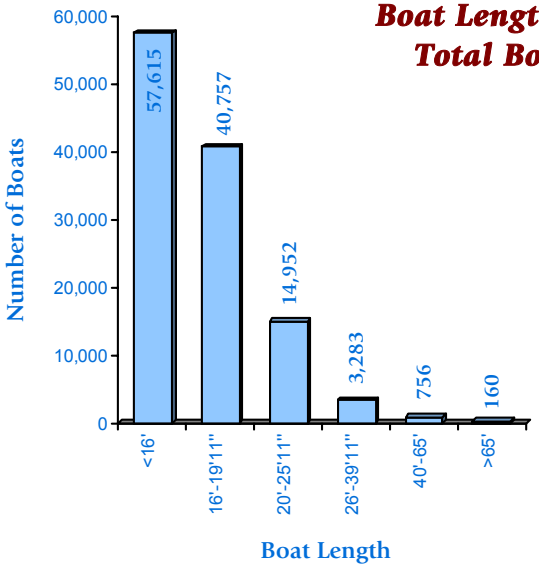
San Joaquin
Amador
Calaveras
Tuolumne
Stanislaus
Merced
Mariposa
Madera
Fresno
San Benito
Kings
Tulare
Kern

Boats and Boaters

Boater Income Levels

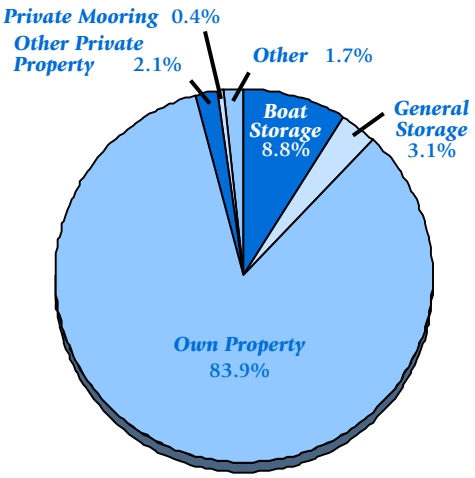


Boat Length – Total Boats



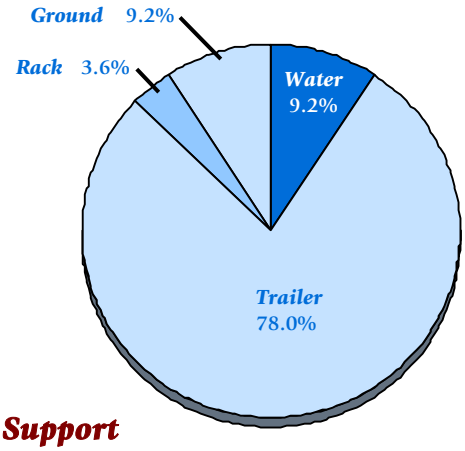
Population:	3,581,700
Total Registered/Documented Vessels:	117,552
Boats per 100 people:	3.28
Mean boater age:	54.9

Boat Storage Facilities



Mean Trips in 2000:	25.2
Mean Days used in 2000:	43

Boat Storage Support

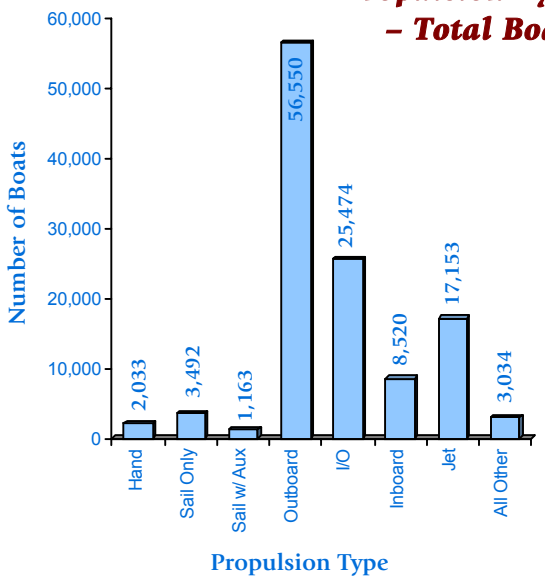


Percent of boats unused in 2000:	19.0
Annual ownership expense:	$1,389
Mean daily trip spending:	$129

Top 10 Waterways

1. Sac-San Joaquin Delta
2. Lake McClure
3. Pine Flat Lake
3. Don Pedro Lake
5. Millerton Lake
5. Huntington Lake
7. New Melones Reservoir
7. San Joaquin River
7. Lake Isabella
10. Pacific Ocean (SF)
10. Success Lake
10. Bass Lake

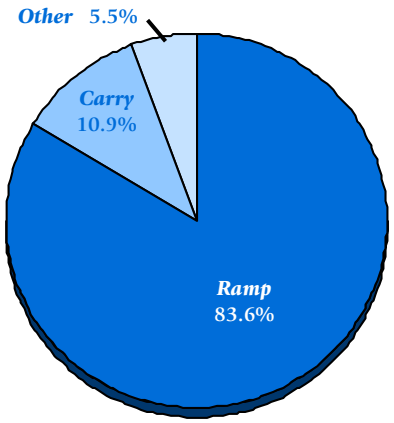
Propulsion Type – Total Boats



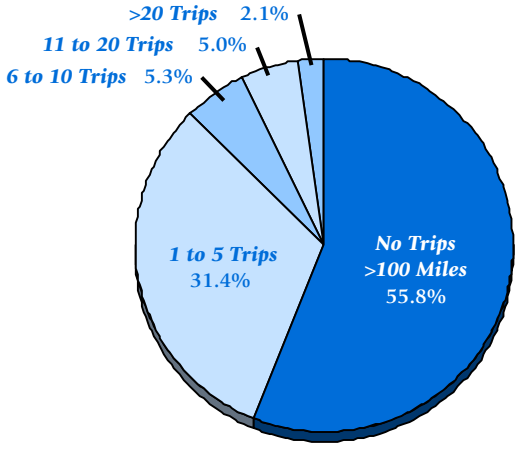
Top 5 Reasons to Use a Waterway

1. Close to home
2. Good fishing
3. Convenience
4. Large water area
5. Pleasure

Launch Methods



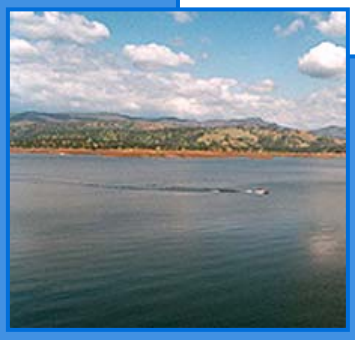
Trips >100 Miles from Home



Facilities and Needs

Facility Count

	Total	Launch	Dry	Wet
Facilities in Survey	73	54	22	47
Facilities not in Survey	27	27	3	8
Percent Surveyed	73%	67%	88%	85%
Region as % of State	12%	15%	11%	10%



Facility Type

	Number
Launch	21
Dry Storage	1
Marina	16
Marina/launch/dry	15
Marina/launch	14
Marina/dry	2
Launch/dry	4
"No facility"	0
	73

Dry Storage

Capacity	1,601
% Occupancy*	51%

Launch Ramps

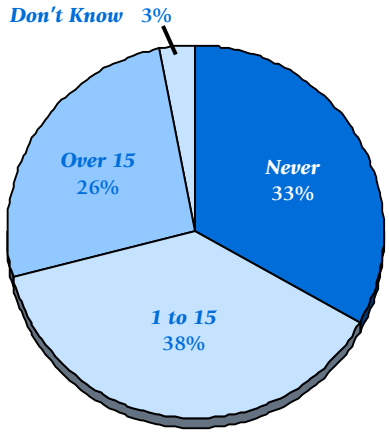
	Number
Lanes Available	166
Trailer Parking Spaces	3,793
Boarding Floats	91
Carry-down Walkways	32

Facility Ownership

	Number of Facilities
Government	30
Non-Government	43

Frequency Launch Ramp Reaches Capacity

N=39



Wet Storage

	Open Berths	Covered Berths	Moorings
Total	3,849	1,795	1,186
% Occupancy*	89%	79%	40%

* Occupancy calculated for facilities with both capacity and occupancy information for the second half of 2000.

Monthly Rental Rates

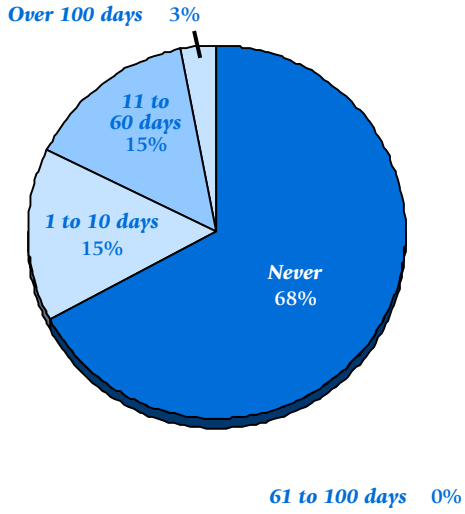
$ per space or slip

Facility Type	Average	Minimum	Maximum
Dry Storage	$46	$15	$129
Open Berths	128	50	250
Covered Berths	165	155	175
Moorings	141	35	250
Liveaboards	252	212	293
Transient*	13	5	25

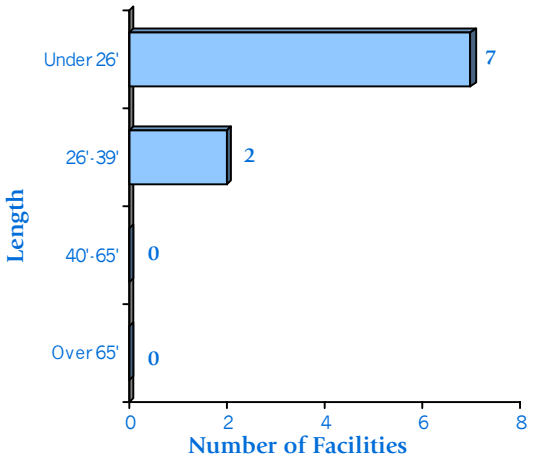
* Rate per night

Frequency Transients were Turned Away in 2000

N=34

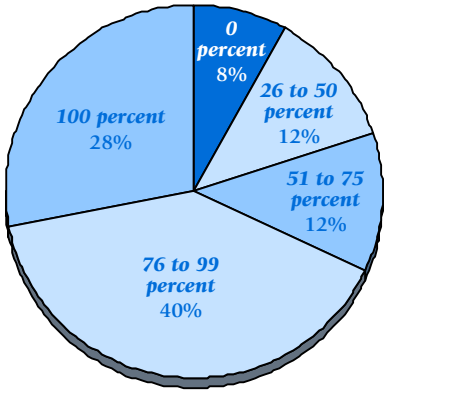


Open Slip Vacancies



Open Slip Occupancy Rates

N=25



Estimated Costs for Repairs, Replacement, Expansion, and Additions

Facility Type	Number with Needs	Number with Costs	Within 2 Years	2 to 5 Years	5 to 10 Years
Launch Ramps	26	20	$9,041,000	$22,860,700	$9,085,000
Dry Storage	12	10	1,134,000	1,857,600	505,000
Wet Storage - Waterside	35	27	7,741,000	18,080,000	4,195,000
Wet Storage - Landside	25	19	4,355,000	4,280,000	7,400,008
Total*	98	76	$22,271,000	$47,078,300	$21,185,008

*Facilities may be included more than once if repairs are needed at more than one facility type.

Waterway Problems*

Boater Survey	Waterways
Overcrowding	Lake Isabella, Bass Lake, Lake Tulloch
Insufficient water depth	Pine Flat Lake, Sac-San Joaquin Delta
Invasive species	Sac-San Joaquin Delta, San Joaquin River
Reckless boaters	Sac-San Joaquin Delta, San Joaquin River
Excessive/rude law enforcement	Pine Flat Lake
Reckless PWC operators	San Joaquin River

Law Enforcement Survey	Waterways
Congestion on waterway	Don Pedro Lake, Kings River, Lake Buena Vista, Lake Tulloch, Modesto Reservoir, Sac-San Joaquin Delta (Acker Island, Main Channel, Venice Cut), Woodward Reservoir
BUIs/DUIs	Don Pedro Lake, Lake Buena Vista, Lake McClure, Pine Flat Lake, Sac-San Joaquin Delta (Bora Bora, 4-Mile Slough, Acker Island, Main Channel, Venice Cut), Tulloch Lake
High frequency of accidents/collisions	Kings River, Lake McClure, Merced River, Sac-San Joaquin Delta (Ash Slough, Bora Bora, 4-Mile Slough, Acker Island, Main Channel, Venice Cut, Ski Beach), Stanislaus River
High frequency of fatalities	Mokelumne River, Kings River, Sac-San Joaquin Delta (Ash Slough), Stanislaus River
Inexperienced boaters	Modesto Reservoir, Pine Flat Lake, Woodward Reservoir
Insufficient parking	Kings River, New Melones Reservoir, Pine Flat Lake
Reckless/excessive PWC operators	Don Pedro Lake, Kings River, Lake Tulloch
Vandalism/theft	Kings River, Pine Flat Lake, Sac-San Joaquin Delta (Ash Slough)
Lack of law enforcement/lifeguard facilities	Mokelumne River, Sac-San Joaquin Delta (Acker Island)
Operators ignore speed limits/rules/regulations	Berenda Reservoir, Kings River
Congestion at launch ramps	Kaweah Reservoir
Dangerous water conditions	Kings River
Dock/ramp damaged	Kings River
Excessive speed of boats	Sac-San Joaquin Delta (Bora Bora, 4-Mile Slough)
High frequency of fires/arson	Sac-San Joaquin Delta (Ash Slough)
High frequency of search and rescue missions	New Melones Reservoir
Illegal non-boating activities	Sac-San Joaquin Delta (Ash Slough)
Incidents/accidents go unreported	Pine Flat Lake
Insufficient water depth	Merced River
Invasive species	Sac-San Joaquin Delta (Ash Slough)
Lack of recreational facilities	New Melones Reservoir
Ramp in poor condition	Pine Flat Lake
Reckless boaters	Kings River
Reckless/excessive water skiers	Lake Tulloch
Rental agencies rent to inexperienced operators	Kings River
Rude/argumentative/violent boaters or users	Sac-San Joaquin Delta (Bora Bora, 4-Mile Slough, Ski Beach)
Submerged objects/obstacles	Kings River
Vessel swimmer contact	Kings River
Wakes created by speeders	Lake Tulloch

* Problems in bold were identified by more than one source.

Waterway Problems* *(continued)*

Workshop Participants	Waterways
Excessive speed of boats	Mokelumne River
Lack of pumpout facilities	Don Pedro Lake
Vandalism	Kings River
DBW 2000 Boating Safety Report	**Waterways**
High frequency of accidents	Don Pedro Lake, Sac-San Joaquin Delta

* Problems in bold were identified by more than one source.

Waterway Facility Needs*

Boater Survey	Waterways
More capacity	Kaweah Reservoir, Lake Isabella, Lake McClure, San Joaquin River
Parking capacity	Bass Lake, Pine Flat Lake, San Joaquin River
Better waste pumpout	Pine Flat Lake, Sac-San Joaquin Delta
Separate area for PWCs	Don Pedro Lake, Pine Flat Lake
Better Facilities	San Joaquin River
Dredging	Sac-San Joaquin Delta
Facility Survey	**Waterways**
Better restrooms	Berenda Reservoir, Cherry Lake, Eastman Lake, Hensley Lake, New Melones Reservoir, Pinecrest Lake, San Luis Reservoir, Success Lake, Sac-San Joaquin Delta
Parking capacity	Berenda Reservoir, Cherry Lake, Kaweah Reservoir, Lake Camanche, Millerton Lake, New Melones Reservoir, Pine Flat Lake, Success Lake
Campgrounds/improve campgrounds	Bass Lake, Kaweah Reservoir, New Melones Reservoir, Pine Flat Lake, Turlock Lake
Maintain water level	Bass Lake, Bear River Reservoir, Kaweah Reservoir, New Spicer Meadow Reservoir, Wishon Reservoir
Paved parking lot	Cherry Lake, Huntington Lake, San Luis Reservoir, Woodward Reservoir, Sac-San Joaquin Delta
Dock repairs	Berenda Reservoir, Lake Buena Vista, Lake Camanche, Sac-San Joaquin Delta
Launching capacity	Lake Amador, Pine Flat Lake, Sac-San Joaquin Delta, Woodward Reservoir
Make wheelchair accessible facilities	Eastman Lake, Hensley Lake, Lake Amador, Los Banos Creek Reservoir
Ramp repairs	Lake McClure, San Luis Reservoir, Turlock Lake, Sac-San Joaquin Delta
Needs a gas pump station/improve current station	Huntington Lake, Lake Camanche, Woodward Reservoir
Improve/add breakwater	Lake Camanche, Lake McClure
More dry storage	Sac-San Joaquin Delta, Shaver Lake

* Facility Needs in bold were identified by more than one source.

Waterway Facility Needs* *(continued)*

Law Enforcement Survey	Waterways
Not enough facilities	Kings River, Lake McClure, Mokelumne River, Sac-San Joaquin Delta (Acker Island)
Boat storage facilities	Lake McClure, Mokelumne River
Launching capacity	Don Pedro Lake, New Melones Reservoir
Access road improved/needed	Sac-San Joaquin Delta (Acker Island)
Add docks	Sac-San Joaquin Delta (Acker Island)
Better speed markers/speed limits	Kings River
Buoy markers	Kings River
Dock repairs	Kings River
Improve signage	Kings River
Informational kiosk	Kings River
Parking capacity	Kings River
Remove invasive species	Sac-San Joaquin Delta (Ash Slough)
Remove submerged obstacles	Kings River
Restrict/prepare for development	Tulloch Lake
Workshop Participants	**Waterways**
Better restrooms	Don Pedro Lake, Turlock Lake
Day use areas	Don Pedro Lake, Turlock Lake
Ramp repairs	Don Pedro Lake, Kings River
Better waste pumpout	Don Pedro Lake
No wake zone	Mokelumne River
Non-motorized craft launch	Tuolumne River

* Facility Needs in bold were identified by more than one source.

9. Eastern Sierra Region

Geography

The region is sparsely populated with 33,000 people. It was historically devoted to mining and forestry, and is now primarily supported by tourism. Its terrain is mountainous but contains lakes of all sizes. Boating is largely curtailed during the winter months.

Boats

The region's 2,900 boats constitute 9.02 per hundred people, the highest boat ownership rate in the state. Small outboards and PWCs are the most popular types; large boats are rare. The fleet is relatively young, with a median age of 16.

Boating Activity

Boaters of the region most often use Crowley Lake.

Some also mentioned the following as their primary waterway:

1. Topaz Lake
2. Walker Lake, NV
3. June Lake
4. Lake Sabrina
5. Diaz Lake
6. Bridgeport Reservoir
7. Klondike Lake
8. South Lake Tahoe
9. Twin Lakes
10. Grant Lake

Facilities

There are relatively few facilities in the Eastern Sierra region, accounting for 5 percent of the statewide total. Most of the facilities are privately owned, although there are a large number of government-owned facilities (launch ramps at small lakes) that were not included in the survey. Pressure on launch ramps is relatively high, with seven of 19 facilities reporting that they exceed capacity more than 15 times per year.

The occupancy rate at the few open berths in the region is low – 61 percent. Many berths in the region are seasonal, and a portion of the survey took place after the season closed at the small mountain lakes. All vacancies reported were in the under 26 foot range. Most facilities do not turn away transients, although 5 facilities reported turning away transients 11 to 60 days in 2000.

Problems

There are very few problems in the Eastern Sierra region. Only 12 percent of boat owners in this region had any problem with their primary waterway, and most of the region's waterways appear trouble-free. Only five of the region's many lakes had identified problems:

- Crowley Lake –
  - dangerous water conditions
  - high facility use fee
  - high frequency of fatalities
  - invasive species
  - reckless PWC operators

- Mono Lake –
  - dangerous water conditions
  - high frequency of fatalities
  - needs more public access
  - not ADA compliant
  - sensitive ecosystems
- Diaz Lake –
  - reckless PWC operators
  - reckless water skiers
- Klondike Lake –
  - PWC and windsurfer conflicts
- Twin Lakes –
  - Vandalism.

Facility Needs

The most frequently mentioned facility needs were ramp repairs and launching capacity. Again, there were relatively few waterways with needs identified. Waterways with more than one identified need are listed below:

- Crowley Lake –
  - add docks
  - information kiosk
  - launching capacity
  - ramp repairs
  - separate area for PWCs
  - storm warning system
- Mono Lake –
  - ADA compliance
  - launching capacity[1]
  - more public access
  - parking capacity
- Diaz Lake –
  - better waste pumpout
  - ramp repairs
- Lake Alpine –
  - mooring buoys
  - parking capacity
- Silver Lake –
  - add docks
  - add facilities.

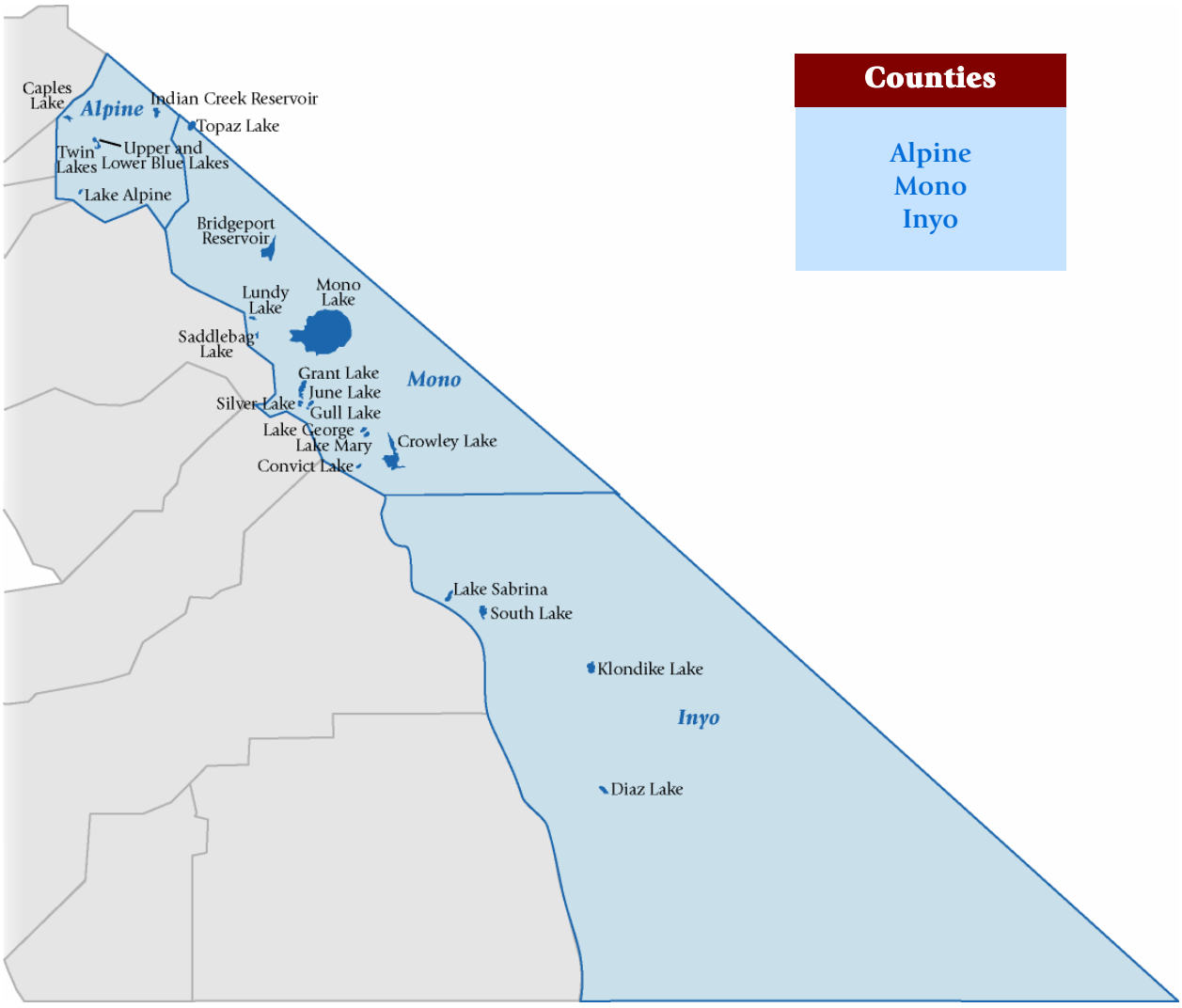
[1] There is a land-use and ownership conflict on Mono Lake between the California State Parks Department and local landowners that must be resolved before a ramp is developed.

Eastern Sierra Waterways*

Waterway	Launch Ramp	Dry Storage	Wet Storage
Bridgeport Reservoir	✓		✓
Caples Lake	✓		✓
Convict Lake	✓		✓
Crowley Lake	✓	✓	✓
Diaz Lake	✓		
Grant Lake	✓	✓	✓
Gull Lake	✓		✓
Highland Lakes	✓		
Horseshoe Lake	✓		
Indian Creek Reservoir	✓		
June Lake	✓	✓	✓
Lake Alpine		✓	✓
Lake George	✓		
Lake Mary	✓		
Lake Sabrina	✓		✓
Lundy Lake	✓	✓	✓
Mono Lake			
North Lake	✓		
Rock Creek Lake	✓		✓
Saddlebag Lake	✓		
Silver Lake	✓		✓
South Lake	✓		✓
Topaz Lake	✓	✓	✓
Twin Lakes	✓	✓	✓
Upper & Lower Blue Lakes	✓		
Upper Twin Lake	✓	✓	✓
Virginia Lakes	✓		

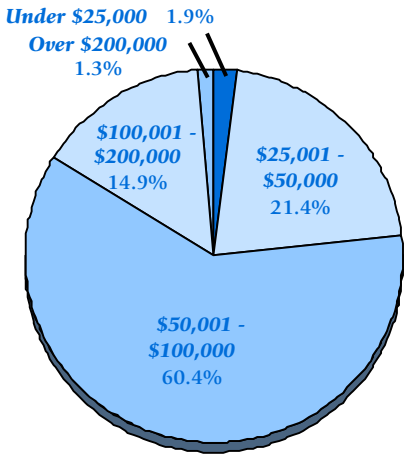
* Waterways in italics have boating facilities but were not included in the 646 facilities in the full BNA Survey.

Eastern Sierra Region Key Waterways

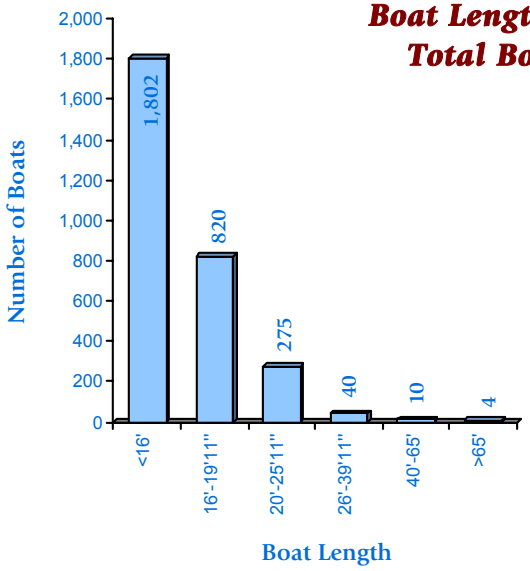


Boats and Boaters

Boater Income Levels

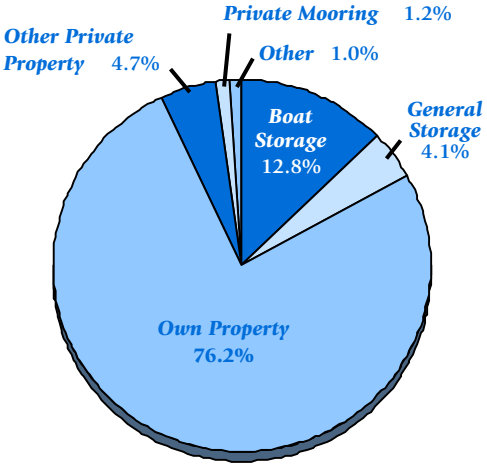


Boat Length – Total Boats



Population:	32,720
Total Registered/Documented Vessels:	2,951
Boats per 100 people:	9
Mean boater age:	53.2

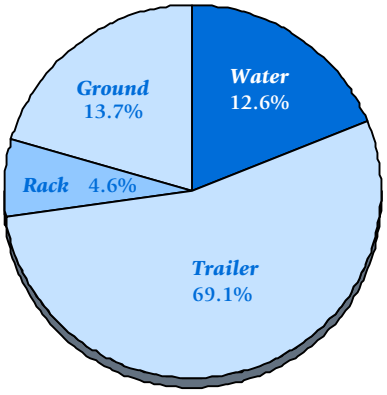
Boat Storage Facilities



Mean Trips in 2000:	17.9
Mean Days used in 2000:	35

Percent of boats unused in 2000:	26.0
Annual ownership expense:	$975
Mean daily trip spending:	$117

Boat Storage Support



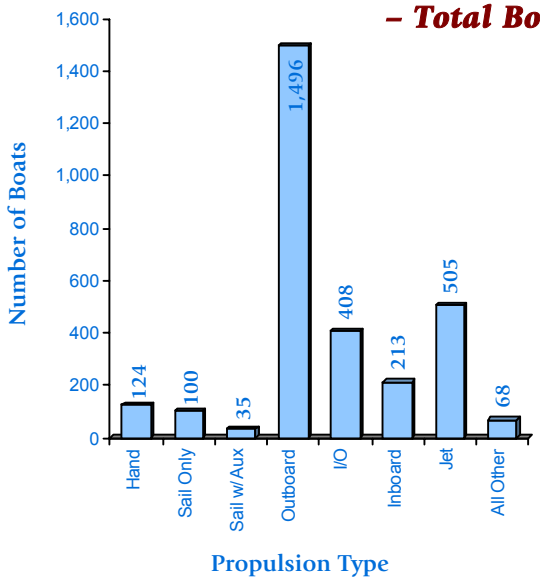
Top 10 Waterways

1. Crowley Lake
2. Topaz Lake
3. Walker Lake (NV)
4. June Lake
4. Lake Sabrina
6. Diaz Lake
6. Bridgeport Reservoir
8. Klondike Lake
8. Lake Tahoe (South) (SB)
8. Twin Lakes

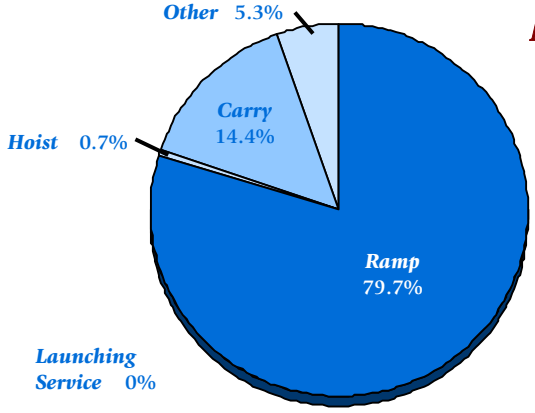
Top 5 Reasons to Use a Waterway

1. Good fishing
2. Close to home
3. Likes the place
4. Convenience
5. Scenery, natural beauty

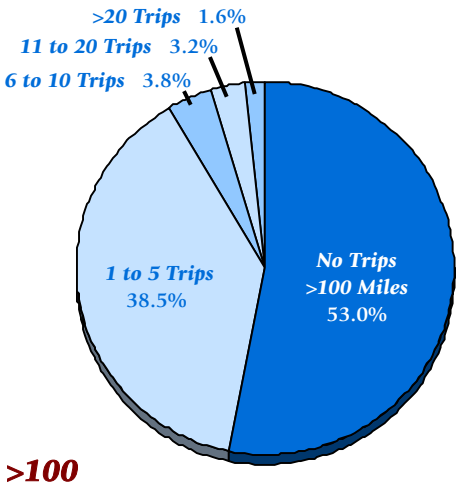
Propulsion Type – Total Boats



Launch Methods



Trips >100 Miles from Home



Facilities and Needs

Facility Count

	Total	Launch	Dry	Wet
Facilities in Survey	21	19	8	14
Facilities not in Survey	14	14	1	4
Percent Surveyed	60%	58%	89%	78%
Region as % of State	4%	6%	4%	3%

Dry Storage

Capacity	428
% Occupancy*	58%

Facility Type

	Number
Launch	6
Dry Storage	0
Marina	0
Marina/launch/dry	7
Marina/launch	6
Marina/dry	1
Launch/dry	0
"No facility"	1
	21

Launch Ramps

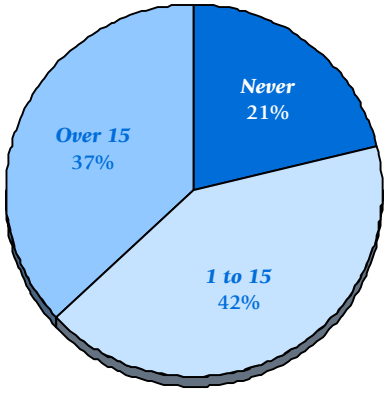
	Number
Lanes Available	29
Trailer Parking Spaces	2,254
Boarding Floats	34
Carry-down Walkways	14

Facility Ownership

	Number of Facilities
Government	7
Non-Government	14

Frequency Launch Ramp Reaches Capacity

N=19



Don't Know 0%

Wet Storage

	Open Berths	Covered Berths	Moorings
Total	504	—	308
% Occupancy*	61%	—	18%

* Occupancy calculated for facilities with both capacity and occupancy information for the second half of 2000.

Monthly Rental Rates

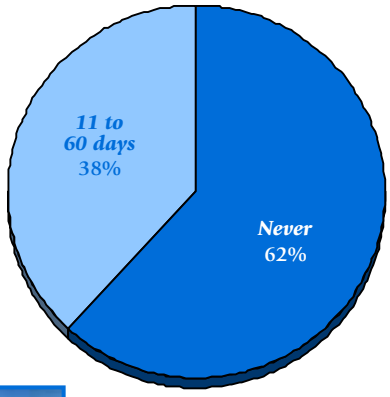
$ per space or slip

Facility Type	Average	Minimum	Maximum
Dry Storage	$ 31	$15	$60
Open Berths	86	50	150
Covered Berths	—	—	—
Moorings	74	60	100
Transient*	11	4	35

* Rate per night

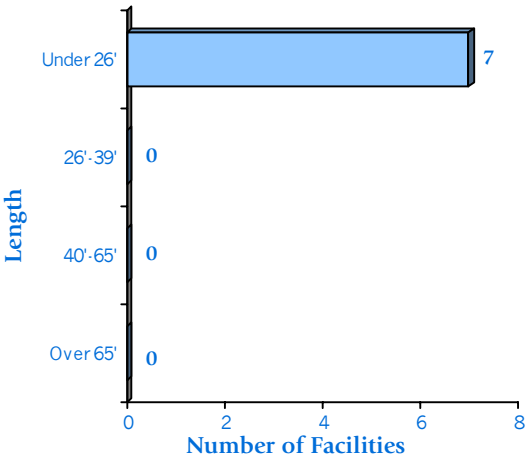
Frequency Transients were Turned Away in 2000

N=13



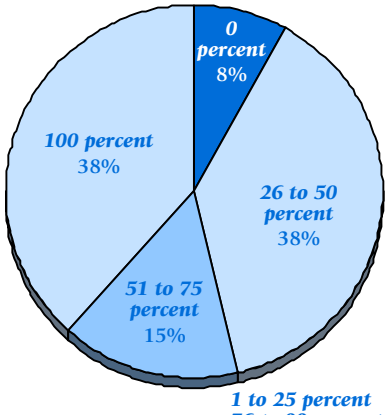
1 to 10 days	0%
61 to 100 days	0%
Over 100 days	0%

Open Slip Vacancies



Open Slip Occupancy Rates

N=13



1 to 25 percent	0%
76 to 99 percent	0%

Estimated Costs for Repairs, Replacement, Expansion, and Additions

Facility Type	Number with Needs	Number with Costs	Within 2 Years	2 to 5 Years	5 to 10 Years
Launch Ramps	14	11	$164,000	$241,000	$278,000
Dry Storage	1	1	—	100,000	100,000
Wet Storage - Waterside	10	6	55,200	96,600	50,000
Wet Storage - Landside	7	6	60,000	405,000	210,000
Total*	**32**	**24**	**279,200**	**842,600**	**638,000**

*Facilities may be included more than once if repairs are needed at more than one facility type.

Waterway Problems*

Boater Survey	Waterways
Reckless PWC operators	Crowley Lake, Diaz Lake
High facility use fee	Crowley Lake
Invasive species	Crowley Lake
Reckless/excessive water skiers	Diaz Lake
Vandalism	Twin Lakes
Law Enforcement Survey	**Waterways**
Dangerous water conditions	Crowley Lake, Mono Lake
High frequency of fatalities	Crowley Lake, Mono Lake
Workshop Participants	**Waterways**
ADA compliance	Mono Lake
Dangerous water conditions	Mono Lake
Needs more public access	Mono Lake
PWC and windsurfer conflicts	Klondike Lake
Sensitive ecosystems	Mono Lake
DBW 2000 Boating Safety Report	**Waterways**
High frequency of accidents	None

* Problems in bold were identified by more than one source.

Waterway Facility Needs*

Boater Survey	Waterways
More capacity	All top ten waterways
Better waste pumpout	Diaz Lake, Walker Lake (NV)
Ramp repairs	Crowley Lake, Diaz Lake
Separate area for PWCs	Crowley Lake
Facility Survey	**Waterways**
Parking capacity	Convict Lake, June Lake, Lake Alpine, Mono Lake, South Lake
Add docks	Convict Lake, Crowley Lake, Mono Lake, Silver Lake
Mooring buoys	Grant Lake, Lake Alpine, Topaz Lake, Upper Twin Lake
Add facilities	Indian Creek Reservoir, Silver Lake
Launching capacity	Crowley Lake, Mono Lake
Law Enforcement Survey	**Waterways**
Information kiosk	Crowley Lake
Launching capacity	Mono Lake
More public access	Mono Lake
Storm warning system	Crowley Lake
Workshop Participants	**Waterways**
ADA compliance	Mono Lake
Launching capacity	Mono Lake
Low-water launch	Bridgeport Reservoir
Ramp repairs	Saddlebag Lake

* Facility Needs in bold were identified by more than one source.

10. Southern Interior Region

Geography

The region is hot and arid with extensive unpopulated areas. Its population of 3.5 million is mostly concentrated in the San Bernardino-Riverside area. It was historically devoted to mining, trade, and manufacturing but recently has grown in the service sector as it merged with the greater Los Angeles metropolitan complex. The Colorado River runs along the eastern boundary of this region. The lakes of the region are few and small.

Boats

The region's 97,000 boats constitute 2.76 per hundred people. PWCs are dominant in this region, outnumbering small outboards over 2 to 1. The fleet is quite young, with a median age of 13.

Boating Activity

Boaters of the region most often use the Colorado River, Lake Perris, and Lake Havasu.

Some also mentioned the following as their primary waterway:

1. Big Bear Lake
2. Pacific Ocean
3. Lake Mohave
4. Silverwood Lake
5. Lake Elsinore
6. Lake Mead
7. Lake Skinner
8. Mission Bay

Facilities

The total number of facilities in the Southern Interior is relatively low, accounting for 6 percent of the statewide total. The number of dry storage facilities is higher, accounting for 10 percent of the state's dry storage facilities. About two-thirds of the facilities are privately-owned. Pressure on launch ramps is high, particularly on the heavily-impacted Colorado River. Only 5 of 24 launch ramp facilities reported never reaching capacity, while 9 reached capacity over 15 times per year.

Occupancy rates for open berths are low – only 62 percent. The total number of open berths is also relatively low compared to the number of boats. Most vacancies are in the under 26 foot range. Transients are not turned away frequently, with over one-half of the facilities reporting they did not turn away transients in 2000, and none turning away transients over 60 days.

Problems

The number of problems and waterways with problems in the Southern Interior region is small, however, the extent of the problems, particularly on the Colorado River, are large. The Colorado River is probably the most impacted waterway in the State, particularly on holiday weekends. Unfortunately, few of the problems on the Colorado can be resolved through facility improvements. The most common problems in the region are congestion at launch ramps, accidents, insufficient water depth, and problems related to reckless use and drinking. Waterways with multiple problems include:

- Colorado River –
  - accidents
  - BUIs/DUIs
  - congestion at launch ramps
  - congestion on waterway
  - drunkenness
  - high frequency of crime
  - insufficient water depth
  - reckless/excessive PWC operators
  - vessel swimmer contact (Copper Canyon)
- Big Bear Lake –
  - accidents
  - inexperienced boaters/lack of education
  - insufficient water depth
  - invasive species
  - reckless/excessive PWC operators
- Lake Perris –
  - accidents
  - congestion on waterway
  - congestion at launch ramps
  - poor water quality
- Sunbeam Lake –
  - inexperienced boaters/lack of education
  - reckless/excessive PWC operators
- Wiest Lake –
  - inexperienced boaters/lack of education
  - reckless/excessive PWC operators

Facility Needs

The facility needs recommended most often in the Southern Interior region includes: more capacity, dredging, ramp repairs, launching capacity, and removing invasive species. Many of the other recommendations were directed towards increased law enforcement and safety. Waterways with multiple facility needs include:

- Colorado River –
  - add docks
  - better restrooms
  - better waste pumpout
  - close facility (Blankenship Bend, Copper Canyon)
  - dredging
  - gas pump facilities
  - install navigational aides/maps
  - launching capacity
  - maintain water level
  - more capacity
  - parking capacity
  - ramp repairs
  - separate area for PWCs
  - snack bar/dock bars
- Big Bear Lake –
  - dredging
  - gas pump facilities
  - improve water quality
  - maintain water level
  - more capacity
  - ramp repairs
  - remove invasive species

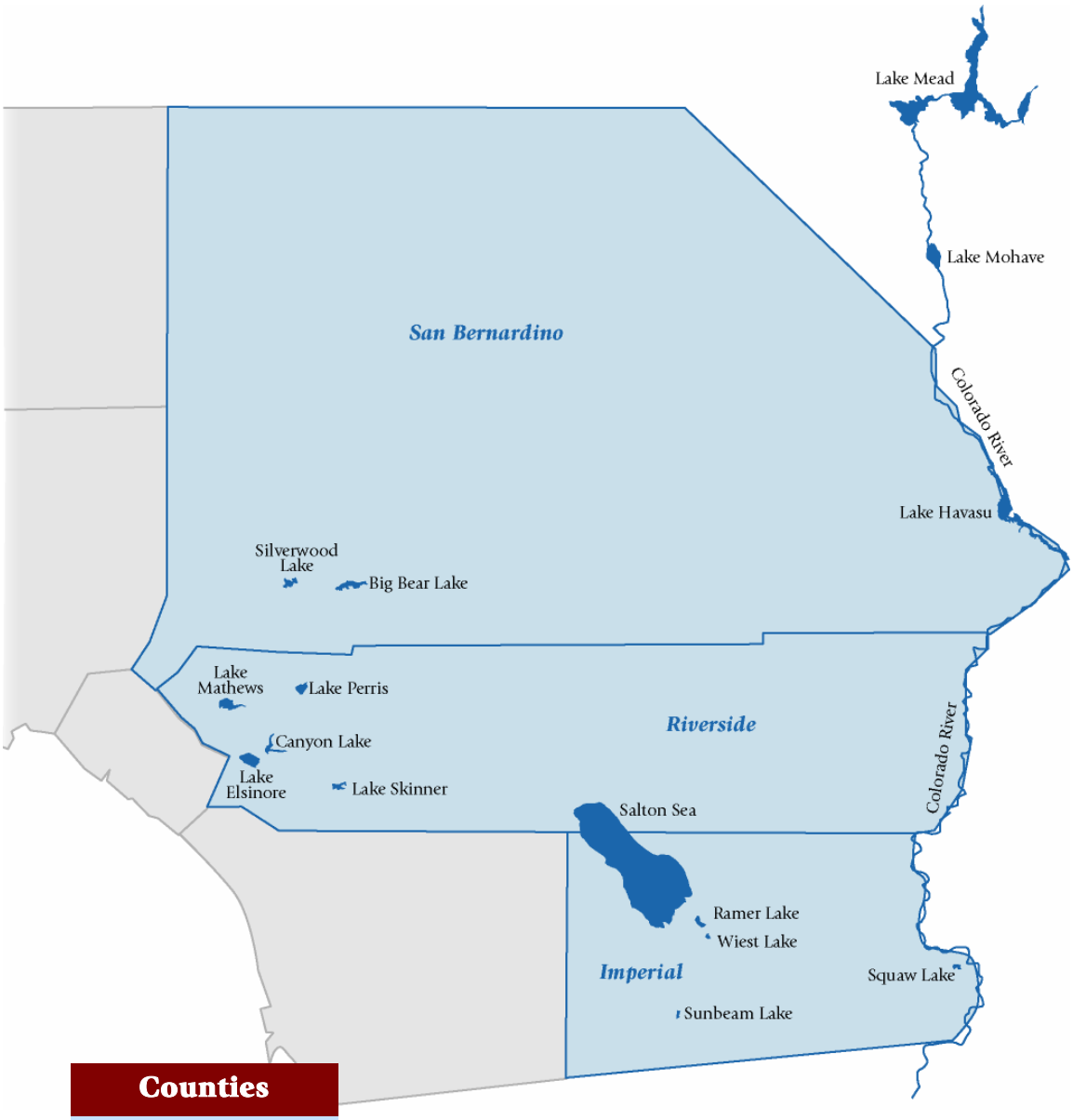
- Lake Elsinore –
  - add docks
  - better waste pumpout
  - maintain water level
  - more capacity
  - parking capacity
- Salton Sea –
  - dredging
  - gas pump facility
  - maintain water level
  - more capacity
- Lake Perris –
  - launching capacity
  - more capacity
  - separate area for PWCs.

Southern Interior Waterways*

Waterway	Launch Ramp	Dry Storage	Wet Storage
Big Bear Lake	✓	✓	✓
Colorado River	✓	✓	✓
Lake Cahuilla			
Lake Elsinore	✓	✓	✓
Lake Havasu	✓	✓	✓
Lake Evans	✓		
Lake Hemet	✓	✓	
Lake Perris	✓	✓	✓
Lake Skinner	✓	✓	✓
Ramer Lake	✓		✓
Salton Sea	✓	✓	✓
Silverwood Lake	✓	✓	✓
Sunbeam Lake	✓		
Wiest Lake	✓		

* Waterways in italics have boating facilities but were not included in the 646 facilities in the full BNA Survey.

Southern Interior Map

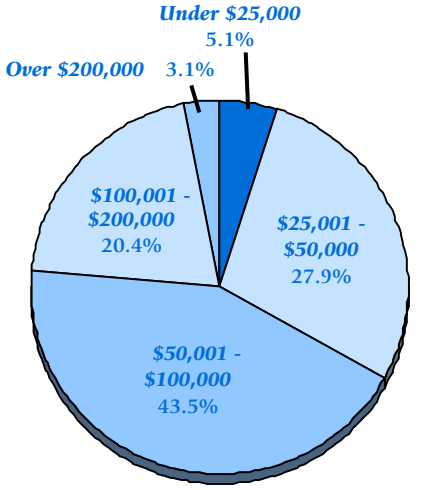


Counties

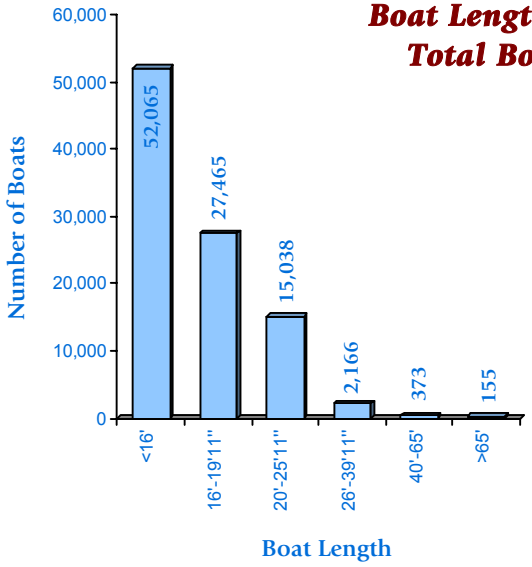
San Bernardino
Riverside
Imperial

Boats and Boaters

Boater Income Levels

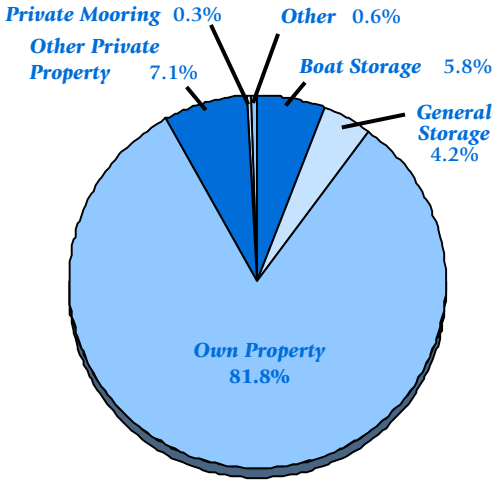


Boat Length – Total Boats



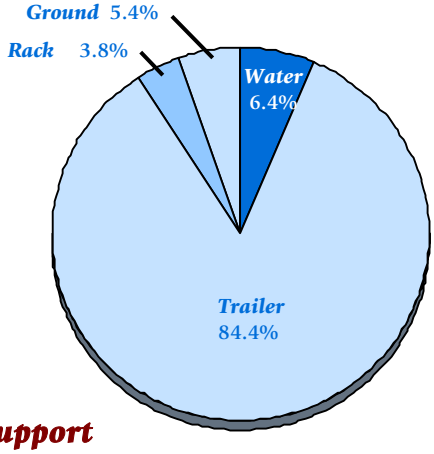
Population:	3,524,600
Total Registered/Documented Vessels:	97,272
Boats per 100 people:	2.76
Mean boater age:	51.5

Boat Storage Facilities



Mean Trips in 2000:	18.8
Mean Days used in 2000:	41

Boat Storage Support



Percent of boats unused in 2000:	16.0%
Annual ownership expense:	$1,018
Mean daily trip spending:	$167

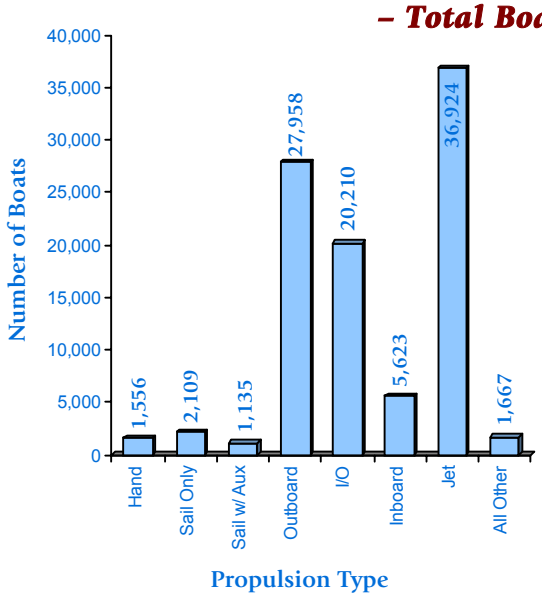
Top 10 Waterways

1. Colorado River
2. Lake Perris
3. Lake Havasu
4. Big Bear Lake
5. Pacific Ocean (SC/SD)
5. Lake Mohave (AZ/NV)
7. Silverwood Lake
8. Lake Elsinore
9. Lake Mead (AZ/NV)
10. Lake Skinner

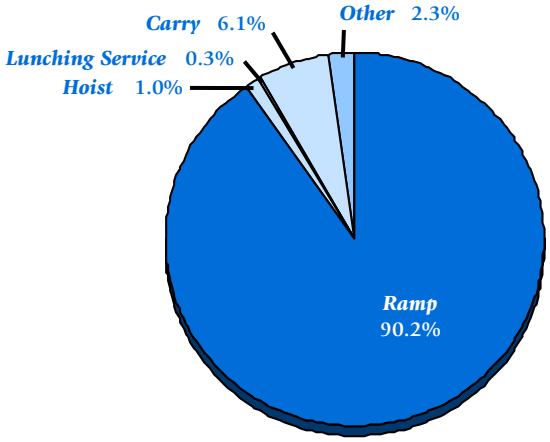
Top 5 Reasons to Use a Waterway

1. Close to home
2. Good fishing
3. Convenience
4. Likes the place
5. Large water area

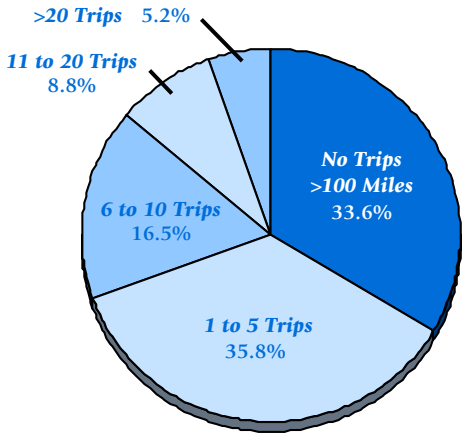
Propulsion Type – Total Boats

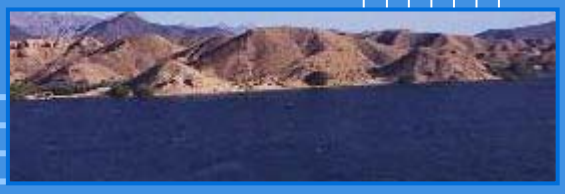


Launch Methods



Trips >100 Miles from Home





Facilities and Needs

Facility Count

	Total	Launch	Dry	Wet
Facilities in Survey	36	27	20	26
Facilities not in Survey	11	12	2	2
Percent Surveyed	77%	69%	91%	93%
Region as % of State	6%	7%	10%	5%

Dry Storage

Capacity	2,088
% Occupancy*	77%

Facility Type

	Number
Launch	4
Dry Storage	1
Marina	4
Marina/launch/dry	12
Marina/launch	7
Marina/dry	3
Launch/dry	4
"No facility"	1
	36

Launch Ramps

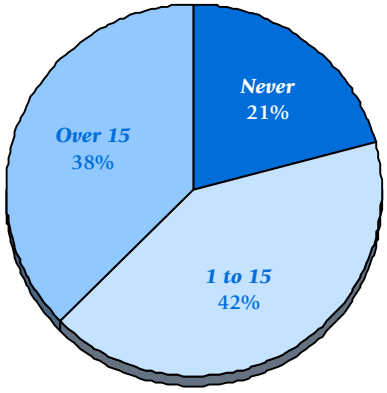
	Number
Lanes Available	94
Trailer Parking Spaces	4,934
Boarding Floats	40
Carry-down Walkways	39

Facility Ownership

	Number of Facilities
Government	15
Non-Government	21

Frequency Launch Ramp Reaches Capacity

N=24



Don't Know 0%

Wet Storage

	Open Berths	Covered Berths	Moorings
Total	2,611	1	483
% Occupancy*	62%	100%	66%

* Occupancy calculated for facilities with both capacity and occupancy information for the second half of 2000.

Monthly Rental Rates

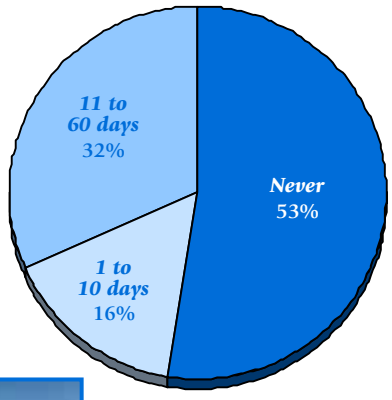
$ per space or slip

Facility Type	Average	Minimum	Maximum
Dry Storage	$48	$15	$106
Open Berths	112	33	200
Covered Berths	113	113	113
Moorings	114	50	180
Transient*	14	5	30

* Rate per night

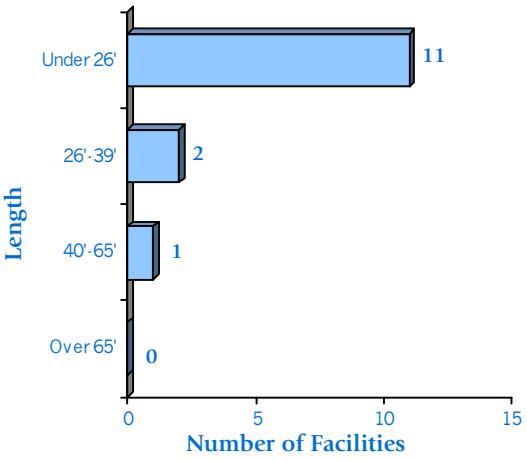
Frequency Transients were Turned Away in 2000

N=19



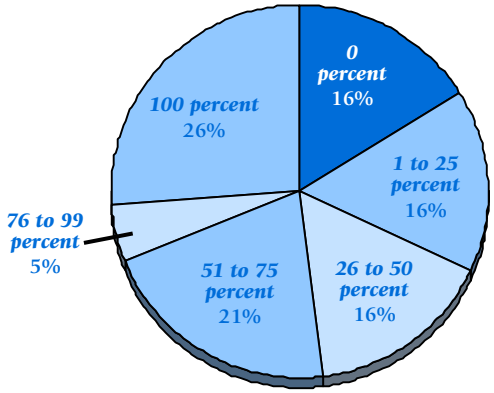
61 to 100 days 0%
Over 100 days 0%

Open Slip Vacancies



Open Slip Occupancy Rates

N=19



Estimated Costs for Repairs, Replacement, Expansion, and Additions

Facility Type	Number with Needs	Number with Costs	Within 2 Years	2 to 5 Years	5 to 10 Years
Launch Ramps	18	14	$5,862,000	$9,080,000	$9,255,000
Dry Storage	13	6	205,000	570,000	520,000
Wet Storage - Waterside	17	10	3,530,000	1,035,000	1,870,000
Wet Storage - Landside	15	10	28,584,500	4,625,000	3,740,000
Total*	**63**	**40**	**$38,181,500**	**$15,310,000**	**$15,385,000**

*Facilities may be included more than once if repairs are needed at more than one facility type.

Waterway Problems*

Boater Survey	Waterways
Congestion at launch ramps	Lake Perris
Drunkenness	Colorado River (Blythe)
Insufficient water depth	Colorado River
Overcrowding	Lake Perris
Reckless boaters	Silverwood Lake
Law Enforcement Survey	**Waterways**
Reckless/excessive PWC operators	Big Bear Lake, Colorado River, Sunbeam Lake, Wiest Lake
Inexperienced boaters/education needed	Big Bear Lake, Sunbeam Lake, Wiest Lake
Congestion on waterway	Colorado River, Lake Perris
BUIs/DUIs	Colorado River
Congestion at launch ramps	Big Bear Lake (East Launch Ramp)
High frequency of crime	Colorado River
Poor water quality	Lake Perris
Vessel swimmer contact	Colorado River (Copper Canyon)
Workshop Participants	**Waterways**
Insufficient water depth	Big Bear Lake, Colorado River
Congestion at launch ramps	Colorado River
High frequency of accidents	Colorado River
Invasive species	Big Bear Lake
Overcrowding	Colorado River
DBW 2000 Boating Safety Report	**Waterways**
High frequency of accidents	Colorado River, Lake Perris, Big Bear Lake

* Problems in bold were identified by more than one source.

Waterway Facility Needs*

Boater Survey	Waterways
More capacity	All top 10 (except Channel Islands Harbor and Lake Elsinore), Salton Sea, Big Bear Lake, Lake Havasu
Better waste pumpout	Lake Elsinore, Colorado River
Dredging	Salton Sea, Colorado River
Separate area for PWCs	Colorado River, Lake Perris
Ramp repairs	Colorado River
Facility Survey	**Waterways**
Maintain water level	Big Bear Lake, Colorado River, Lake Elsinore, Salton Sea, Silverwood Lake
Add docks	Colorado River, Lake Elsinore, Lake Skinner
Needs a gas pump station/improve current station	Big Bear Lake, Colorado River, Salton Sea
Dredging	Big Bear Lake, Colorado River
Improve water quality	Big Bear Lake, Lake Elsinore
Launching capacity	Colorado River, Lake Perris
More capacity (general or unspecified)	Lake Elsinore, Silverwood Lake
Parking capacity	Colorado River, Lake Elsinore
Remove invasive species	Big Bear Lake
Snack bar/dock bars	Colorado River
Law Enforcement Survey	**Waterways**
Install navigational aids/maps	Colorado River (Blankenship Bend, Copper Canyon, Parker Strip)
Close facility	Colorado River (Blankenship Bend, Copper Canyon)
Workshop Participants	**Waterways**
Dredging	Big Bear Lake, Colorado River (Needles)
Better restrooms	Colorado River (Park Moabi, Needles)
Launching capacity	Colorado River (Needles)
Remove invasive species	Big Bear Lake
Ramp repairs	Big Bear Lake

* Facility Needs in bold were identified by more than one source.